

Video Fever



Entertainment?
Education?
or Addiction?

Charles Beamer

HIGH SCORE: 98500

VIDEO FEVER

CHARLES BRASH

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CHARLES BEAMER



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VIDEO FEVER

1

The Video Invasion: Fad or Our Future?

"Does anyone *dare* to fight me?" challenges the computer-chip voice of *Space Fury*. Yes, they do!

"Chicken! Fight like a robot!" mutters the mechanical monotone of *Berzerk*. Some players accept that challenge, too... though others don't. But into the arcades and video game centers and up to the machines in stores, restaurants, and even dentists' offices go players, "magic" quarters in hand, eyes searching for the slot that will enable them to switch on the delightful, and perhaps dangerous, world of video games.

It's dark inside the arcades and video game centers, womblike, comforting, exciting. Lights flash and flicker seductively in many colors from strange and alluring sources. Sounds of battle beckon the players to death-defying heroism, courageous exploits hardly possible in the ordinary worlds of school and home, and hours and hours of fun!

Enter...if you dare! People of all ages stand around you. They frantically manipulate joysticks, laser "Fire!"

- 12 buttons, and energy shield projector buttons. Their eyes are riveted on large, flashing, fascinating screens, screens that project alien landscapes, strange mazes, and situations that would make a professional race car driver scream in frustration. The players are locked in combat against foes on whom they can vent anger and frustration...or they are merely spending time with what they will tell you is a "friend."

While others wait in line for their turn at the enemy, the players stand with feet braced, bodies and arms often in violent motion, using every possible technique to make the small white digits of their score flash higher and higher. Some will leave after a few games, some will spend an entire day there, and a few can almost always be found there.

What on earth is this world? Who on earth—if indeed they are from the earth many of us think we know—are these people?

What are those machines they are playing? Are they simply "stupid machines" or are they a sign of the cutting edge of high-technology? And what accounts for the seemingly abrupt eruption of the video invaders across our landscape?

What techniques do game manufacturers build into their games to make them appeal to so many consumers? What motivates so many players to stand for so long, feeding quarters (and soon, half dollars) into the machines?

Do the players gain any benefits from playing, or are video games simply a frivolous pastime? If there are benefits, how can they be capitalized on by parents and teachers?

On the other hand, can the world of video games

actually harm the players? Are the machines dangerous, or potentially so? 13

Finally, what can you *do* about your children who play video games? *Should* you do anything? And what specific activities can your family engage in to either make the most of your children's involvement with video games or to provide substitutes?

This book will provide answers to these questions and more.

The video game players, by their own statements, are just "players." They may also call themselves "game athletes" in a conscious comparison with the world of sports athletes. Video game players by and large are not sports athletes; they do not see themselves as being physically inclined people. They are more sedentary than action oriented—the future or present office workers, lab workers, researchers. They are thinker-doers rather than doers, much less "jocks."

Other video game players call themselves "computer nuts." They play the games because the games are programmed, are high-tech competition against microprocessors, and are extensions of the "wave of the future"—computers that will be used regularly in homes and in industry. "Computer nuts" are likely to have home computers and to work in jobs that use computers. They are likely to write their own game programs at home and to play them with friends. And they are fascinated and deeply involved with all aspects of the computer world.

Another group of players has been called "vidkids." Vidkids are the younger generations who have grown up with electronic "marvels" unheard of in their grandparents' childhood. Vidkids live in a world of

- 14 electronics. Their communication with the world is centered around the television; their entertainment almost always involves some form of electronic medium—television, stereo systems that make a simple record player look antique, “jam boxes” and tape decks in cars, bedrooms, and everywhere young people can be found.

Reading, to a vidkid is often a burdensome chore. Drama, history, and current events come from the television; values and beliefs, emotional and intellectual development are reinforced or influenced by television. The main reason for the apparently abrupt “eruption” of video games, for their seemingly sudden omnipresence, is that so many vidkid consumers were waiting, hands ready, minds prepared, reflexes electronically attuned, and habits electronically oriented.

“Delinquents” form another category often seen in or around video game centers and arcades, depending on the locality and the attitude of the arcade owner, parents, and law enforcement officers. Groups of young people do congregate at places where entertainment can be had. Kids attract kids. When tough kids begin going to a place, other tough kids and their followers assemble. What happens next varies with each situation, each arcade. Drug abuse—marijuana or beer—and violence are the most often cited problems.

Kids without proper supervision, where law enforcement is lax, are likely to intimidate younger children, drink alcoholic beverages, smoke marijuana or plain cigarettes, destroy property, and shout obscenities. Unfortunately, as even the video game center owners complain, gangs of delinquents are often found where video games are found.



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Others among the crowds of video game players are college students, businessmen, housewives, workmen on lunch breaks, and a few parents. Businessmen and professionals play because the games relax them and provide a pleasant break from routines of work that are stressful or boring. Some lawyers, dentists, and even movie makers, such as director Stephen Spielberg and producer Frank Marshall, have installed video games in their offices—either to entertain waiting clients or simply to provide relaxation.

Housewives may find video games in their beauty parlor and can play while waiting for a permanent to set or their hair to dry. Workers of both sexes, especially those who have boring or repetitive jobs, play video games as an exciting break in their day. College students—vidkids grown older and “computer nuts” alike—play between or after classes for relaxation and as exciting breaks in the “grind of books.”

Few generalizations can be applied to the people you find in video game centers and arcades. They tend to be young, and they tend to be male. There are fewer girls and still fewer women who play, and there are far more young people than adults. The adults who play tend to wait until “the kids clear

- 16 out'' before taking their turn. After all, it's sort of embarrassing either to stand in line waiting to play a machine behind a bunch of kids or to play poorly and have some ten-year-old easily triple your score!

One other generalization applies to video game players: They all are avid quarter spenders. The quantity of quarters being spent, as well as a number of other aspects of video game playing, has created concern and controversy about the world of video games.

Those quarter-eating *things* earn their manufacturers between \$2 billion and \$5 billion a year. The higher figure is approximately twice the amount all the gambling palaces in Nevada took in last year. It is almost twice as much as all movies in the country earned last year. It is three times last year's total earnings of the three major professional sports—football, basketball, and baseball.

In addition, the American public spent a *billion* dollars buying home console units—belonging to approximately eight million home game players. Units for the home presently sell for about \$180 for a console and \$300 for a home computer, and go up to \$3,000 to \$4,000 for a video game such as those you see in an arcade. Those games earn their keepers between \$200 and \$400 a week. An owner of two video game centers grosses \$75,000 per *week*—in a city of only 55,000 people!

What are we to make of all this financial, technical, and emotional activity? Is the video game phenomenon a harmless, passing fad or a harbinger of future technology that will influence every one of us?

Many things have been recently written and said—and passed into laws and ordinances—about the

world of video games. The voices are conflicting. 17

On one hand are those who say that video games are nothing more than the latest craze. The assumption is that "this, too, shall pass." Many believe that video games represent a superficial, momentary and passing delight, and not part of a significant trend or development within our society and culture.

The "fad" voices are answered by those who say that video games are the "wave of the future." These voices see computers and all their derivative products, such as video games, as necessary and vital for the years ahead. They are voices who are aware of the information explosion and the growing problems of information management and distribution. These voices—from the video game industry and the computer industry itself—see video games as a natural extension of the computer world and of the trend toward high-technology, electronic orientations in our society as a whole. To these people, no part of life will remain untouched by computers. To them it is only natural that our electronic entertainments should be combined with computers to produce the future *now*.

A third and growing group speaks with concern and warning about video games. This group is made up of parents, teachers, law enforcement officers, and city government officials. This group points to the fact that the video game industry's enormous earnings amount to a maximum of 20 billion quarters. Twenty billion quarters laid end to end would reach to the moon and about a third of the way back, or 296,706 miles!

Where do those quarters come from? They are earned primarily by working people and by young

- 18 people who receive allowances or mow yards and do odd jobs or, perhaps, minimum wage jobs.

But the chief concern is with the number of quarters that come from other sources—quarters stolen from mothers' purses and from parking meters or soft drink machines, quarters spent on video games instead of on school lunches, quarters taken by coercion from younger children.

Concerned parents and teachers also point to the number of school-age young people who can be found in video game centers and around the machines in stores and restaurants during school hours. Time spent playing the games, this group says, is time spent away from school, homework, family entertainment and chores. They say the time spent playing video games also is time spent essentially in silent isolation—child against machine, young person against computer.

These parents and teachers rightfully are concerned about young people's educational, emotional, and social development. They see video games as a real or potential threat against tender, vulnerable areas of young people's lives.

The voices promoting or condoning the booming video game trend or fad point to other facts of the video game world. They argue that if a child is spending his or her money on a game, at least the money is not being spent on marijuana, beer, or candy. They also point to a number of benefits, or purported benefits. The basic message of this group is "Hey, the games are fun. Let the kids alone!"

Should we? We'll see. First, back to the question, "Who plays these games?" in more personal terms, using material gained during personal interviews.

2

Who Are the Players?

Jimmy. It is about Jimmy that this book primarily was written, for it is his parents who should be most concerned, or need to be warned. Children like Jimmy make up less than ten percent of the players of video games. But he is not rare or unusual. He can be found in any arcade, game room, or store where the machines are. He and his problems are not epidemic by any means, though they may be symptomatic of a number of underlying problems threatening our nation's young people, and some older people.

Jimmy does not like school. He finds it dull and meaningless. He does not like his teachers and does not get along with them. They perceive him either as a nonachiever or underachiever. Frequently they identify him as a source or a cause of discipline problems in the classroom.

Nor does Jimmy have many friends among the other students. They perceive him as silent and almost withdrawn. He usually does not participate in group activities; he seems uncomfortable or sullen

- 20 around group members and frequently disrupts or does not contribute to group activities.

Jimmy lives for one thing: to escape from school and home and play video games. He can be found playing the games from four to six hours a day or longer. When asked why he plays so much, he replies: "Because it's fun." His face lights up when he says that, and it is the same expression he wears when all the geometric attackers of *Space Duel* have been blown up or when the *Missile Command* screen lights up with "The End" after Jimmy successfully has defended earth's cities.

But the rest of the time, Jimmy's face shows almost no emotion as he manipulates the controls, intent on reacting quickly enough to defeat the next wave of attackers...and the next...and the next. Kill or be killed is the main theme of his world. His reward is survival—but also, without his conscious knowledge, it is "random reinforcement." Each game has a frustration level just strong enough to keep Jimmy playing and feeding the "magic" quarters into the slot. Jimmy is addicted to video games.

If you persist in talking with Jimmy (which annoys him) he will admit that he has stolen money from his mother's purse and from the top of his father's bureau. "But they didn't miss the money," he explains. "Besides, they've got plenty, and they're never around to do anything with me anyhow."

He readily admits skipping school to spend hours in the video game center two blocks from the school, despite the posted sign which reads "No minors allowed during school hours." A city ordinance made the sign mandatory, but the police rarely bother to enforce it. In the darkness of the center, his slim

body hunkered against a machine, his total concentration on the screen, what passing policeman would take the time or trouble to hassle Jimmy? 21

If Jimmy had close friends, they might urge him to come on, to leave the intriguing maze of *Vanguard* where he always can be a success. They might urge him to go out to some dusty, hot baseball diamond where he probably would only sit on a bench after being chosen last for a team about which he cares nothing. But he has only one close friend, and he is also addicted to the games. Jimmy's other friends also play, and they are around him in the arcade—being successful, killing enemies by the score, hoping for a T-shirt emblazoned with the crowning title: "High Score Winner: *Vanguard*."

"Jimmy, are you learning anything by playing the video games?"

He shrugs and swipes wispy hair off his forehead.

"Could you be a success in school if you put as much effort into it as you do into playing the games?"

He shrugs again. "I s'pose so, if I had some help."

"Don't your parents mind if you spend so much time and money on the games?"

"Naw, they don't care. They don't even know where I am most of the time . . . or care, as long as I don't cause trouble."

"Could you stop playing video games or control whatever makes you feed so many quarters into them?"

After a moment's reflection, and a glance of budding hostility at the person who would make such a suggestion and imply disapproval of him, he shakes his head negatively and returns to a machine.

The Game: It is Jimmy's life, the meaning of and



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reason for his existence. The Machine: It is Jimmy's friend, his source of reward and success. The Arcade: It is Jimmy's real home, his place of comfort, learning, and entertainment. He likes the lights, the music, the sounds of the machines. The Money: Merely a means to an end. The Future: A blank.

Shannon. Shannon is different from Jimmy in many ways, but in several ways he is like Jimmy. Both of them find school boring, something more to be endured than profited from. Shannon, like Jimmy, finds the greatest, most consistent, most exciting source of success in his life by playing video games. With them, *he*—not some adult—can be *master*. He, like Jimmy, plays for fun—drawn to the lights and sounds, entranced by the differences in spaceships or tanks, caught up with the increasing speed of the attackers.

Also, Shannon's friends are with him, and to some extent the game machine itself is a friend. When he is "down" or feels alone or not in control of himself or his environment, he goes to his "friends" the machines for companionship. The environments on the game screens are ones he *can* control. The rules are fixed, unlike life itself, which is variable and unpredictable. He can learn video game rules,

but he has difficulty applying and accepting the "rules of life" that adults in his school/home world urge upon him. He may spend ten dollars learning video game rules, but once he has learned them, his success factor soars, and he gains control. 23

Shannon is unlike Jimmy in others ways. Shannon *can* walk away from the games, having spent a definite amount of money he decided on before he went into the arcade. Shannon, unlike Jimmy, is not addicted to the games. His life, his sense of self-worth in particular, does not *depend* on playing the games.

If he has a chance to go to the arcade or to play a game in a store while his parents shop, he will. But he will not steal money or skip school to play. He has fun playing, and he loves the success and control involved. But he also has fun and success playing baseball, riding his ten-speed bicycle, doing electronic experiments, devising and "loading in" original games on a friend's home computer, and, to some extent, in his school subjects. He has friends who go to church with him, who come to his house to play and who invite him to their houses, and who do not depend on the games for anything more than entertainment.

In his future, as Shannon enthusiastically says, he will probably become a businessman who uses computers or will have some other job connected with computers. Before he is grown, Shannon will certainly have a home computer; he wants one now and would like to be programming his own games and doing other electronic manipulation at home.

Shannon's purpose in wanting a computer? To learn. Do the games themselves teach him anything?

- 24 No, he doesn't think so. But if prompted, he will admit they do stimulate his thinking, reflexes, and coordination. Talking with Shannon and many young people more or less like him, one can see definite lines stretching from their playing of video games into a future of possibilities.

David. David is twenty-one years old. He began playing video games when they first appeared. *Star Castle* and *Space Invaders* are "old hat" to David because they are too easy and their options too easily exhausted. David plays video games several times a week when he has time away from college classes. He has a video game console at home, hooked to his color television, but he quickly becomes bored with existing cassette programs. He also has an Apple computer, and with it he can develop his own games, even though that particular brand of computer does not have game capability—until David goes to work on it. He and his friends share their home-programmed games, challenging one another with the complexity of the "racks" or skill levels and the "tweaks" or quirks of personality each can add to their games.

Having grown up with computers and video games, David is both a "vidkid" and a "computer nut." As such, he talks about computers and video games with a mixture of avid enthusiasm and defensiveness against criticisms. He also speaks with sympathy for "computer illiterates" and shows a high degree of defensiveness about their fears, at which he scoffs. He speaks with sympathy about the "older generations," which he defines as anyone born before about 1965, anyone who grew up before the "com-

puter explosion" following World War II and the Korean Conflict, and anyone who has fears about computers.

David says "older" people have some sort of fantasy "trip" that computers will "take over the world." The one fault he finds with the Disney movie *Tron* is that the "Master Control Program," or villain in the movie, feeds the socio-cultural fear of computers "taking over." He laughs at that fear. "What could they take over if people didn't let them?" David basically feels that if "older" people somehow could gain familiarity with computers, their fears of them—and of video games—would vanish into fascination with what computers can do.

David becomes defensive when someone asks him about the possible dangers of video games and computers. He believes that the media have hyped a false danger simply to sell magazines and newspapers and to get people to watch the news shows. He believes that most of the concerns people are expressing have little basis in fact. "Sure," he admits, "there are lots of kids who are hooked on video games." But he says that if they weren't addicted to video games, they would find something else on which to focus their compulsion.

Generally, David relates the numerous criticisms about video games to the kind of criticism that greets any major change or innovation in society. Change promotes resistance; the status quo always resists any alteration in the way things always have been done. He, like most of the "computer nuts" and "game athletes" who play video games as a pastime, personally ignores the doubts, fears, and criticisms.

"Computers *aren't* going to go away," he empha-

26 sizes. "And the sooner the 'older' people get used to them, the better off they'll be." He adds an implication that if the "older" people don't "get with it," the kids who are growing up with computers will leave them far behind when it comes to the jobs and careers of the future—a future that is approaching faster than the attacking "scouts" of *Vanguard*.

Mr. Sutton. Mr. Sutton works in a shoe store in the shopping mall where a video arcade is located. He is in his forties and, by his own description, is "just ordinary . . . nothing unusual." He goes into the arcade during his lunch hour to play *Pac-Man*. Whom does he see the *Pac-Man* character devouring? He chuckles, looking around to see who is listening. "My customers," he confides, "especially the ones who don't know what they want and can't be satisfied with anything I show them."

Does he sometimes identify his boss with one of the energy dots *Pac-Man* gobbles up? "No," he answers ruefully. "My boss is one of the fuzzy monsters pursuing me—*Pac-Man*. A lot of the time, the monsters win. I get gobbled up and fade away into nothing."

Is he interested in any application of the games—such as a carry-over into home computers?

"Not at all. I spend two or three dollars a day—for fun, simply for fun."

"Do you and your wife ever play together?"

"I don't tell my wife I play at all. She made fun of me the one time I told her. She called me a big kid," he laughs. "And I try to play when there aren't many kids in there. I mean, I feel stupid when some kid racks up a score a lot higher than my absolute

best, especially when the kid's not even sweating!" 27

So there is an element of tension?

"Certainly. But it's a different kind of tension from working. Except for worrying that some kid is looking around me, laughing, I get right into the game and get rid of what's been building up inside me all morning." He pauses thoughtfully. "I've thought about playing after work, before I go home. Maybe it would help me go home more relaxed."

Is that a symptom of budding addiction?

He shrugs with one eyebrow and his lips. "No. I don't think so. I can't see myself standing at the machine hour after hour the way some of the kids do."

Emilie. Emilie is eighteen, pretty and slender, with long blonde hair that swings from side to side as she plays *Centipede* or *Ms. Pac-Man*. She will also play any of the more battle oriented, kill-or-be-killed games, and she is just as good at them as any of the boys. She points with pride to one machine where her initials are posted at the top of the "High Score Winners" column.

Why does she play?

"Look, Mom's got her soap operas. What's so different between them and *Donkey Kong*, for instance? There's a plot to that game—a cute little hard hat character trying to rescue his girlfriend. Mom's hooked on soaps; I'm hooked on games."

"Are you really hooked, addicted?"

"No," she says quickly, smiling. "I only spend ten or so dollars a week on them. And so what? I work for my own money. But look at Mom. She hurries through whatever housework she has so she won't

- 28 miss *All My Children*, *Ryan's Hope*, and *As the World Turns*. And she's in love—I mean really honestly in love—with one of the doctors on *General Hospital*. Now, she's addicted!"

Does playing video games take away from Emilie's social life?

"Not hardly," she answers, swinging her hair away from her face. "I'm going with a guy, and we go bowling, to the movies, and to church. I just play the games when I have spare time and he's not around."

Does her boyfriend also play?

"Yeah, he likes *Grand Prix*. It's the only time when he can drive as fast as he wants to. He can't wait to shift into high gear and really get it on."

Does driving the simulator in *Grand Prix* have any crossover effect on his actual driving—such as improving his reflexes?

"It makes him drive faster for a while when he gets on the street. But he settles down; I guess he realizes that the fun is over and he's got to be serious. Improve his driving? No, I drive better than he does, and I *never* play *Grand Prix*."

So there they are, some of the inhabitants of the strange yet not-so-strange world of video games. Shannon, David, Mr. Sutton, and Emilie are typical; Jimmy is typical to a lesser degree, but it is Jimmy about whom we are most concerned.

Now let's look more closely at what motivates video game players.

3

Why Do the Players Play?

Why do they stand there at machines, feeding quarters into a slot, watching a screen, manipulating controls? Few players are dominated by any one of the following motives; each player has a mixture of motivations. However, the players who have thought about *why* they're doing what they're doing sometimes are able at least to verbalize all the "whys."

Fun. By far the most widely expressed reason for playing video games is simply "It's fun!" Playing video games *is* entertainment. Lots of things are fun to do, and right now the "funnest" thing to do is to play video games.

"*Jist Showin' Off!*" Picture a twelve-year-old boy named Jerry. The owner of the local video game center dreads to see him coming because he always comes in leading a pack of eight or so other boys. The other boys have not come to feed the machines; they have come to watch Jerry. He is the *Defender* champion. He is fun to watch, and Jerry is well aware of that fact. He doesn't simply play the game;

30 he puts on a show. His gyrations, body English, shouts and grunts and jeers are enough to pay admission to watch—almost.

If he would study, he'd be on the honor roll; if he could ride a bicycle well, he'd be "poppin' wheelies"; if he'd put on some weight, as his father keeps urging him to do, he might be a football star. But there he stands, on his stage, in his colored spotlights, surrounded by his friends, cheered on by the less successful or poorer players, in his glory.

Loneliness. "When I feel down or get to feeling like everybody is against me, or when I just don't have anybody to play with or be with, I go play video games," a thirteen-year-old named Nathan said. He, like other players, calls video game machines his "friends." He has formed a relationship with them; he learned their rules, and they have rewarded him. He understands their language, their behavior, their excitement, and he shares fully in those things—the same way, essentially, that Nathan shares in the language, behavior, and excitement his human friends provide when he's with them.

Nathan also has more free time than most of his friends do, because both his parents work and don't come home until time for the evening meal. So what's a fella to do? Sit blobbed out in front of the television, watching reruns of *Gilligan's Island* and *Love Boat*? Not when the fun of being with "friends" can be had for a quarter.

Video game centers and arcades are places where kids congregate. They are places of activity, music, movement, lights, and sounds. They are exciting places—the perfect antidote to loneliness, provided you have a quarter or more. If you don't, you can

always watch the show-offs and other players, although, as Nathan says, watching the players surely makes you want to be one of them.

Refuge. Because the arcades and video game centers are places of activity, they are refuges—from school, home, and boredom. They are usually dark and womblike, nonthreatening except to a novice. They are frequently lit with “black lights” that make white parts of clothing glow in the dark. They are places, usually, where kids of the same age can be found . . . and where adults usually do not come. If adults do come, they don’t hassle anybody; adults and young people are enjoying the same things.

At home, adults usually want a young person to do what *they* want to do. In school, all sorts of demands are placed on young people. They are badgered with those horrible words “discipline” and “responsibility” and are forced to conform to rules and to undertake tasks that they have little hope of being successful in or completing.

So, they escape. Escapism is another word for refuge, but it is more of a process or activity than a place. A refuge is a place one can go into and feel safe, comfortable, and possibly alone. It is a place to hide in and do pretty much what *you* want to do, to “get out of it for a while.” The pressures of school, expectations of teachers and parents, tensions of social situations are things that build up inside people. When those tensions have built to a level that threatens to explode, an escape is just the thing to “cool out” with for a while. Video games are the perfect escape.

What more *unlike* the ordinary, humdrum, demanding world could there be than the geometric

- 32 attackers of *Space Duel*, the maze of *Pac-Man*, the other-worldliness of the computer-generated danger of *Defender*?

When adults are hassling kids about their hair, grades, or attitudes, becoming a simple-looking little man in a hard hat and dodging barrels dropped by *Donkey Kong* can be a perfect escape. *That Kong* can be mastered.

Where is *your* favorite place of refuge? What are your favorite methods of escape? Given such facts as the pace of life, the pressures of careers and raising children, perhaps adults, too, need to play video games.

Accomplishment. Last year, Jesse was a sophomore in high school. He was a pleasant student, well behaved and liked by most of the other students. But he was a "C" student in his good subjects and a failure in at least two classes. The one thing he was good at was *Pac-Man*. His most prized possession—one he wore whenever it was clean enough to be worn—was a T-shirt lettered, "High Score Champion, *Pac-Man*."

"Are you really better than anyone else in the city?" I asked him.

"Man," he said, grinning, "I'm better than anyone in the *county*!"

He wasn't bragging; he'd been asked a question, and he gave the answer. Being *Pac-Man* champion was Jesse's accomplishment—the only accomplishment he truly could be proud of.

His need to do something well and right was very powerful, obviously. Jesse is typical of a large number of teenagers wearing "Champion" T-shirts; they all have achieved something important in their envi-



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ronment. Why couldn't he transfer the drive and persistence, the skill and intelligence necessary to become *Pac-Man* champion to school subjects or vocational study?

He shrugged. "I don't know, man. It just doesn't work out that way, I guess."

Could he become as successful in school or on a job as he had become at the video game?

"I guess so. I never tried."

Well, maybe the knowledge that he had tried to achieve at least one thing and had done so will some day carry over into other areas.

Success. Accomplishment is, in a way, *doing* something well and right, and success is knowing and feeling that you've accomplished something worthwhile. However, as psychologist Dr. William Glaser indicated, most young people today are being "programmed" for failure. If there is one "curse" that haunts our young people, it is "negative self-concept," a pervasive feeling of failure and lack of self-worth. Many schools and textbooks have attacked the problems, as have various training programs and other methods.

The lack of positive self-concept, despite efforts to remediate it, has been cited as a main cause for the rising rate of drug addiction and abuse, crime, de-

- 34 linquency, run-away behavior, and school drop-out behavior. A lack of a positive self-concept also has been connected with the unemployable, neurotic, alcoholic, child abusing, and just generally unhappy people of our nation. What is the principal factor that gives rise to the development of a negative self-concept? Lack of success. Failure is built into our system in so many ways that many people never can experience any significant success—and become “programmed” for further failure.

If a child's attempts at positively controlling and manipulating his or her early environments are not successful, then that child tends to begin to think of him- or herself as powerless, ineffectual, and lacking worth. If on the other hand a child experiences success at his or her early endeavors, she/he gains self-confidence and is progressively more willing to take the risk of more difficult endeavors—such as reading; social interaction with people other than Mommie, Daddy, and one best friend; and progressive independence. Along that path of success after success, a child's sense of self-worth—his or her self-concept—grows more secure. Failures are learning experiences and are not devastating.

But the other direction is negative. Failure reinforces failure. Negative reinforcement is just as powerful, and perhaps more so, as positive reinforcement. Lack of success can be just as perpetuating as having success. Children come to expect failure and hopelessness as easily, and perhaps more easily, as they learn to expect and enjoy success. And yes, failure is enjoyed by some people in a perverse sort of way. The negative spiral of failure can be as fully accepted and expected as the positive spiral, with

experience adding to and building upon experience 35
until a life pattern is developed.

In the world of video games, children of almost any age—provided they can reach the game controls—can experience success. Success, reward, reinforcement are built into the game programs. The frustration level, skill ladder, and schedule of reinforcement (these terms are explained in the next chapter) are programmed to provide *each* player with at least some success. And kids, more than adults, can be successful at video games. The next time you go into a video game center, you probably will see some adults sweating and nervously fumbling with the controls, while the kids laugh and use body English and don't get upset. *They* know they'll be successful in the world of the games; the adults around them aren't too sure.

Does the success factor of motivation for playing video games carry over into life for the young players? Do their experiences with success carry over? In many cases, they do. Shannon, for example, goes home after playing video games on a healthy, natural high. He's been *successful*, and no one can take his success away from him. He may be put down by his older sister, scolded by his parents, bossed around by his teachers, and teased by his classmates. But he remembers his success in the arcade, and he can go back whenever he needs a "booster."

Control. What is anyone really able to control? His or her own life or self? Employers? Traffic jams and breakdowns? International turmoil? Inflation? Or even our own children? Children are even more helpless than adults. What in his or her world can a child *ever* control?

36 Childhood, by its very nature, is controlled largely by adults. Childhood is practically synonymous with being dominated by adults—unless a child somehow manages to escape them. More and more children are doing just that—escaping. Parents complain about the “loss of discipline, the lack of respect,” as do teachers, policemen, and ministers.

But when a child escapes from discipline and shows a lack of respect, is that child really in control of anything—or is that child simply dwelling in a vacuum from which control and love have been removed? The child still is not really in control of anything important in his or her life. Can young people control their futures? Hardly. Their economic situations? To some extent. Their daily schedules? Rarely. Then, what...?

Ah, video games. The controls are literally in their hands. No one *except* them controls the machine. The program doesn't count; it's “invisible.” With the machine, the desire for control explodes—often literally. An almost mad, though “cool” desire to defend America can be acted out. A desire to wreak havoc with weird, foreign objects can be *lived*. With the acting out of such desires comes control, for only by control can the desires succeed.

A player with almost any degree of skill quickly learns to control the game situations—and the flow of quarters into the slot. The *player* initiates play, begins the commands that set the machine into action, and wins or loses based on his or her decisions and skill. No one else, except the “invisible” program, determines or controls the situation. Mastery! Domination! Control! It is heady wine, intoxicat-

ing, and, given a compulsive personality, addictive. 37

Aura of Intelligence. This element of motivation exists for both the manufacturer and player. The manufacturer, whose games are developed by "game freaks" and "computer nuts," wants an aura of intelligence about his games. No one wants to be thought stupid. And the players themselves drink in that aura. It surrounds the show-off and the expert players. It stimulates average and poor players into greater efforts—and expenditures. A game like *Space Duel* has the appearance of some high-tech computer simulation, one such as might be used by astronauts or aviation engineers.

To the player considered "dumb" or an "under-achiever" in his school or home life, the aura of intelligence surrounding many games is alluring. The game becomes a situation to display his intelligence, because intelligence is involved in gaining control of the game and bringing success to the player. It is not, according to research, a specifically identifiable form of intelligence measurable on an achievement or other standardized test, but it is intelligence nevertheless.

Challenge. In an urban world lacking a wilderness or unconquered mountains to climb, where lie our challenges? Capitalism? The free enterprise system? Medical research? Technological innovations? All such challenges lie completely outside the realm of the possible for children.

What are children's challenges? School? Not getting beaten up by the bullies? Not being put down by the "snobs?" Not getting bitten by the big dog who waits on the way home? Children may dream

38 of being a computer programmer or a doctor, but what are their actual challenges? You may have guessed it... video games.

Everybody's Doin' It! Kids don't seem to be using the cliché "But Daddy, *everybody's* doin' it!" as much as they used to. But in the world of video invaders, the statement "Everybody's doin' it!" seems to apply. It is estimated that nine out of ten young people have played video games. Fads and trends are like that: They sweep. If a young person doesn't participate, he's "out of it." He's missing a key piece of experiential data that "all" of his contemporaries talk about, participate in, and relate to. "Oh, Daddy, *Space Invaders* is out! Ms. *Pac-Man* is in!"

It goes deeper than that. It goes to an almost subconscious, unspoken but understood pool of common experiences. When young people are talking about their video games, but one young person in the group looks blank or makes an ignorant remark about the games, the whole conversation freezes. The "in" ones stare at the "out" one as though he had just admitted to being a space invader. The "out" one begins making plans to go to the arcade, preferably with an experienced player to instruct him so he won't "bomb out" with only six hundred or so points and look stupid in the process.

Once initiated into the world of video invaders, a person can talk freely about high scores, devious attackers, and intriguing mazes.

The foregoing categories should give some idea of the complexity of the motivations involved in playing video games. That's why when a few people begin talking about "doing something to control video

games," they have little idea of how complicated 39
such a desire really is. How do parents or communi-
ties control something that involves millions of peo-
ple on deep levels of their existence? Should anyone
even try?

If we should try to control video game playing—at
least that of the addicted, compulsive players—then
we need to know more about what the game makers
themselves are up to that hooks into the players'
motivations.

4

What Are the Game Makers Up To?

"Why? Because I felt like it," is an ordinary five-year-old boy's response as to why he painted the family dog with red enamel.

I personally feel uncomfortable with insights into the "Why?" of my own behavior. Such insights often carry with them the suggestion, or threat, that I should change something. And change is painful.

Before examining the possible benefits and potential harm of video games, and before discussing what you can do with or about them, let's examine manufacturers' reasons for installing the seductions they put into the games and the techniques by which they lure people to play them.

Why do manufacturers make video games the way they do? Obviously, to make money. How do they earn the money that is pouring in? What techniques are involved in getting people to stand in front of a machine, feeding it quarters for hours? And what makes a game both successful for its manufacturer and popular among players? Here are some answers.

Wizardry. The primary reason why manufacturers—

- 42 and the researchers, programmers, technicians, and testers who work for them—make video games the ways they do is “wizardry.” Most of the people who develop video games are “computer nuts” and “video game freaks” who are as hooked on the games as any addicted young person. They have grown up around computers. They understand the challenges and problems of writing programs and have progressed in the development of their craft to a highly creative *and* highly technical stage. For many such workers, making intriguing, popular games is what they love and do best.

The research and development (R&D) sections of video game manufacturers tend to be multi-million-dollar game rooms. Programmers work alone, in “think-tank” groups, and together as teams. They generate ideas in brain-storm fashion or individually. They develop their ideas and test them on one another, then with groups of outsiders who are players. Ideas are discarded in great number, and only ideas that involve the following set of factors are developed further:

Interest. Obviously, no video game can become popular if it is not interesting. But “interesting” is a complicated, not always definable concept. What is interesting to one player is boring to another. Therefore a mix of interest factors come into play.

Frustration Level. The underlying technique of manufacturers in getting people to play and keep on playing games is to frustrate them. The level of frustration, however, must be carefully regulated. If the level is too high, players will give up. If it is too low, players become bored. But if the frustration level is “just right,” players will feel that it is *their*

fault they lost a game. They will think, "If I play just 43
one more game, I can beat this thing!"

Players must *not* be made to feel that it is the machine's fault they lost. They must not think the machine is smarter or better than they are. They must not believe that the program is unbeatable. If they feel that the rules of the machine are unfair, incomprehensible, or unpredictable, they will stop playing, because their frustration level has risen too high. To control the frustration level of a wide variety of players, the next technique comes into use.

Skill Ladder. The "racks" or skill ladder built into video games mean that a wide variety of players, with different levels of competency can play any one game. A poor player can achieve some success, but he or she rather quickly loses. However, a poor player does not lose so quickly that his frustration level goes too high to keep him from feeding the machine another quarter...and another...always in hope of getting a higher score.

Because of the "lower rungs" of the skill ladder, a lousy *Pac-Man* player might rack up 1,000 to 3,000 points and feel pretty good about it—good enough to continue playing. A better player, on the other hand, quickly climbs the skill ladder by learning the basic rules of the program; his or her score is correspondingly higher. But for this player, and still better ones, the program provides a higher, more complicated, usually faster level of play—and keeps doing so until an expert player reaches the top "rung" of the skill ladder and works the machine to its maximum. As players develop higher skills, the popular video games become more challenging.

In the currently popular games—*Vanguard*, *Donkey*

- 44 Kong, and *Defender*, for example—the machine's program makes the action speed up as a player becomes more successful. As a player progresses initially through the mazes of *Vanguard*, his ship moves slowly; attackers approach slowly and rather predictably and are few in number. If the player "survives" with his ships, and possibly gets a free ship, attackers come at him faster, from more unpredictable places and angles, and in different forms. Surviving three passes through the maze is good; seven times is incredible, because by then the program has "recognized" an expert player and is throwing everything it's got at him.

Inevitably, no matter how high the skill level of the player, disaster and destruction come, requiring the infusion of another quarter. Again, the frustration level is never programmed so high that expert players cannot climb the skill ladder and become High Score Winners.

Random Reinforcement. Behavior that is not rewarded in some manner is, as Thorndike discovered, not repeated. Another term for reward is reinforcement. Reinforcement is a basic element of "behavior management" or "behavior modification." This kind of training means that if I want to get you to do something, I reward you when you do it the way I want you to. I do not reward you when you behave the way I do not want you to.

In behavior modification there always is a "schedule of reward." Usually, a behavior modifier begins rewarding a subject for *each* desired or successful behavior. For example, a teacher wants a child to say a new word. If the child imitates the teacher when she or he models the word, then the child is given a

reward—a smile, piece of candy, or token. After a while the rewards must be scheduled further apart or, for instance, the child would bloat on candy.

If anyone is rewarded on a *regular* basis, he/she figures out that doing what is required only every tenth or fifteenth time will bring a reward. Therefore, the manufacturers of video games use a technique called "random reinforcement." The players don't exactly know when they are likely to win or exactly when the machine may defeat them. Also, they may be rewarded with a "free ship" or an especially stupid robot to dispatch into oblivion at random times during the game. The players do not know when such rewards are likely to occur. They can learn the rules, but the rules become progressively more difficult as the program "goes up" its ladder of skills. The rewards continue to come, but they come at random.

The unpredictability of the rewards prevents the player from getting bored with the game *and* hooks him or her on continuing to play . . . and feeding in quarters. Since few people will continue to do anything that does not have a "pay-off," when a video game player *knows* that she or he *will* be rewarded, the randomness of that reward makes the game more exciting and gratifying . . . and seductive, especially to compulsive personalities.

Methodical Reinforcement. Manufacturers also have learned that there is a type of player who responds to a different reinforcement technique. These players generally do not have the patience or persistence for random reward schedules. Therefore, in games such as *Space Invaders*, the methodical reinforcement technique is used to reward more methodical behav-

- 46 ior. Such behavior is, in a sense, less intelligent than quick reflexes and the ability to adapt quickly to changing situations of attack and defense. And some people simply are methodical; they discover a certain pattern of behavior and stick with it.

Games that use the technique of methodical reinforcement acknowledge and reward such a behavior pattern. The player who feeds on random reinforcement will spray his shots at the invaders from space who are attacking American cities; the methodical player learns, perhaps, that letting his shots destroy one vertical column of the stupidly suicidal attackers at a time is rewarded, and he continues to play.

Titillation. Manufacturers build into their machines as many techniques as possible to titillate or stimulate players. Visual titillation comes from the flashing, flickering, colored lights that draw so many players to the games. Auditory titillation comes from the sounds of battle, of munching critters, of destroyed tanks or robots. Emotional titillation comes from the challenges uttered by creepy or sadistic computer-generated voices: "Be care-ful!" "Goood luck!" "Chicken! Fight like a robot."

The game situations themselves provide emotional stimulation: Kill or be killed, eat or be eaten, dodge and destroy or be blown to fading electronic bits. Without as many forms of titillation as can be jammed into a program, the number and variety of players of a game are severely limited.

Tricks of the Trade. Game manufacturers use various techniques to boost the amount of quarters fed into them. Some of the techniques in the "tricks" category are psychological, some physical.

It matters a great deal which machines are placed

in which locations. Women and girls are known to 47
play *Ms. Pac-Man* and *Centipede* more than males, so
those machines are placed in beauty parlors and
other places likely to have female customers. In places
frequented more by younger children, games that
appeal to that age group are placed; in locations
frequented by college students, the more "intellec-
tual" games are set up; and in locations where high
school students regularly go, the more violent, battle-
oriented games are stationed.

A distributors' problem that makers assist in solv-
ing is "burn-out" among players who become tired
of playing the same games in the same places. One
trick the makers use is to provide distributors with
decals and pop-in microchips; the decals slide under
the tabletop on the front of the machine, making it
look like an entirely new machine, and the exchange
of a microchip changes the way the machine plays in
a way so that players believe it is a new game.

Active Entertainment. One technique manufacturers
claim they build into the games is active entertain-
ment, or active involvement. They honestly seem to
be trying to provide active entertainment, and they
use many devices to accomplish that goal: Steering
wheels, gear shift levers, brake and gas pedals, guns
that must be aimed, and joysticks that can be ma-
nipulated with the aid of body English. Watching
television is passive, and playing baseball or football
may be too active, especially for "game athletes."
Therefore, the games in the arcades require activity,
but not too much.

What techniques are on the horizon to make video
invaders even more attractive? The next generation
of games will soon appear—mainly from Japan through

- 48 American outlets. Many of these games will be three-dimensional. The new games also will be "more intellectual," appealing to a class of player who has gotten smarter and who demands a "smarter" game against which to pit his or her skills.

The new generation of games also may have expanded memory units capable of "keeping your place" for twenty or so seconds after a game is over—until you can dig out another quarter and continue your game where you left off. This "memory hook" should dramatically increase the seductive nature of the machines for compulsive personalities or for any player who can't stand to simply walk away in defeat and admit that "the machine won."

Video games will become more complex. The vidkids have been trained. They have cut their teeth on *Pong* and *Space Invaders*; they are experimenting with their own programming on home computers. New excitement and challenges must be found—and will be found in the new generation of games.

Are there any benefits to all this activity, and to the other aspects of video game play? The next chapter deals with this question.

5

Do Video Games Help Anyone?

What exactly, for the good or the harm, do video games *do* to or for the players? There is often a time lag of about a decade between social changes and research pertaining to them; in the case of video games, which began becoming popular in about 1971, only now is real research about the effects of the games beginning.

The second problem in talking about effects of video games is the same kind of problem one encounters in talking about the effects of television on children. For years, psychologists, psychiatrists, parents, and others have argued for and against television. Some say it's a learning tool that brings the world into the home, while others counter that it merely teaches children shoddy values and violence. Actually *measuring* effects of television, or video games, is extremely complicated, as there are many interrelated factors at work.

Look at our vidkid addict Jimmy, for example. Does he spend his life in an arcade *because* of the

- 50 video games or because of personality disorders or "inappropriate coping mechanisms"? Does he steal quarters from his mother's purse to feed the machines *because* of the video games' seductive attractions or because he is simply a thief?

And who can say that if there were no video games in the world, Jimmy would not be just as he is now—only hooked on sniffing glue, watching television, or simply sitting around somewhere? When he skips school to go to the arcade, is he skipping because of the addiction he has for video games or because he just isn't profiting from his educational experiences?

Added to these questions is the problem of the complexity of personalities interacting in social situations. Do video games teach Jimmy such things as violence, or do video games merely reflect the violence in our society in a way that makes *them* as much a result of our society as is Jimmy? If our society were different, would the content of the games be different, teaching Jimmy and his friends entirely different lessons from "kill or be killed"?

In any case, a number of benefits have been suggested to come from playing video games. The suggestions have been made by manufacturers in defense of their products, of course. But they also have come from doctors, researchers of technological innovations, psychologists and family therapists, educators, and even the U.S. Army. Not all of the benefits described below are said to be derived from playing video games in arcades or homes, however. Many of the benefits are tied directly to the use of home computers, Computer Assisted Instruction (CAI), and specific programs which make use of video games in instructional or therapeutic situations.

Computer Literacy. One of the "villains" in my life 51
is The Computer. *It* messes up my utility bills and
charge account statements; in college, *it* gave me a
number and took away my individuality.

But computers do not mess up bills; programmers
and clerks do. Computers do not assign numbers to
your life or take away your individuality; huge corpora-
tions made up of many people doing various jobs
with various degrees of competency do. If you or I
can change batteries in a flashlight or install a new
light bulb, we can understand the rudiments of
computers.

So why do computers frighten so many people?
Why do so many people shake their heads when
computers are mentioned and look as if some dread
plague had been named? The answer lies mainly in
"computer illiteracy." As Americans in large number
once could neither read nor write, today Americans
in large number do not understand even the basics
of computers and probably don't want to.

But our kids do. Our young people have grown
up holding programmed pocket calculators that solve
in an instant problems that in past generations would
have taken minutes or hours to solve. The speed
with which the calculator makes the answer appear
and the incredible complexity that enables the calcu-
lator to work are all taken for granted by young
people.

We may know what things were like before, when
one had to add, subtract, carry, and so on, then
check the answer methodically. But *young people* look
stupefied when a teacher asks them to do a problem
manually; they ask, "But why? I've got this calcula-
tor, see, and...."

Another example: I've become interested in word

52 processors. With a computer-driven word processor, I could type these words, watch them appear on a screen, rearrange and rewrite until I was satisfied, then store them electronically on a floppy disc. When I wanted to edit the material, I'd slide the floppy disc into a slot, punch on the screen, call up the sections I wanted, and make changes. When I finally was satisfied with the work, I'd call my publisher, get him to make a phone hook-up with his company's computer, and send the manuscript by wire electronically.

At the publisher's office, the manuscript would appear on screens at editors' desks, and they would make needed changes and corrections. When they were satisfied, they would send the manuscript by wire electronically to a typesetting machine or, in the future, to a computer memory unit for later distribution by wire electronically to homes.

The "book" might never be printed on paper. That whole idea fascinates and intrigues me. But when I told my twelve-year-old son that incredible idea, he nodded casually and said, "Sure, then somebody could make a computer generated movie out of it," and walked off. He is a "computer literate"; I'm not.

Thinking in terms of computer-hours in comparison with man-hours is the difference between thinking in terms of the speed of light and travel by automobile. *Work* is becoming more and more cerebral, less physical. Keyboard and screen are rapidly displacing many other forms of office equipment, and filing systems are shrinking so fast that now the contents of my four-drawer file could be put on a single microfiche card.

Money is also becoming less physical. The day when checks and currency are shipped from place to

place is being replaced by the day when electronic impulses flash continually between banks and corporations and even personal banking accounts and stores.

Manufacturing was once based on the work of design engineers and draftsmen sitting at cant-top tables with blueprints. Now a computer and screen and electronic stylus deal with three-dimensional projections of new products to be tested and redesigned electronically before production begins. The applications are endless.

In the near future, the "haves" will be computer literates, and the "have nots" will be computer illiterates. A fifty-three-year-old man who works for a major typewriter company is an absolute genius when it comes to diagnosing and repairing problems of mechanical typewriters or calculators. But when his company shifted rather abruptly to electronics, the man spun into depression; he had quit school in the third grade and couldn't even read, much less understand, the electronic manuals his company was giving him *if* he wanted to survive as an employee. That man had to humble himself and go to his twenty-six-year-old daughter for explanations of "simple" physics and mathematics.

But even after weeks of study and effort, this man still was demoted to servicing data storage systems that were more mechanical than electronic because he could not comprehend computer circuitry. The difficulty of retraining people like him is one of the main reasons why most computers can be repaired by popping out one circuit board and popping in a replacement. Furthermore, the circuits are so microscopically small that "repair" would be practically impossible.

- 54 There are other coming events. There is, for example, a factory in Japan run totally by computers. The factory produces automobiles; it has a staff of eight humans where once it employed more than 2,000 workers. That staff of eight works in a lighted computer control room; the rest of the factory is totally dark because the robot machines that actually manufacture the automobiles don't need light or much of anything else. The robots can diagnose and repair their own problems; they can change drill bits and cutting tools and taps when tolerances pass an acceptable level.

How many people were employed in designing and programming the robots that replaced them? If one industry cuts back its work force because of computerized automation, how much does the work force in the computer and attendant industries expand? Not too long ago, the biggest area predicted by the Department of Labor as having career opportunities was the personal service area—hair stylists and so on. Now the biggest area of opportunity is the computer industry, although lately it has suffered setbacks, perhaps because it tried to grow faster than public acceptance—or computer literacy—had grown.

Nevertheless, what currently is a pastime for young people has the full potential for becoming a career: programming, based on computer literacy.

Eye-Hand Coordination. The relationships between playing video games and the development of specific physical skills such as eye-hand coordination is under study by various researchers. At the moment, it is *assumed* that if a video game player is good, then the game machine has developed such skills as eye-hand coordination. This coordination between



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mental reaction and physical response has application in many jobs, such as assembling the circuit boards of computers.

In medical work, video games are being used to speed the recovery of brain-injured patients. The victims of brain damage or strokes are taught to play video games, because the skill ladder of the games gradually improves the patients' memory capacity, logical skills, eye-hand coordination, and kinesthetic movement (the knowledge of where one body part is in relationship to another).

In brain injury, there often is a breakdown between mental processes and physical responses, and this breakdown is what playing video games apparently overcomes. A paraplegic patient who is learning to steer an electric wheelchair can learn more quickly if she or he practices with a video game joystick and a game of maneuvering an object through a maze. The specific skills developed are sighting a target or goal, moving an object toward that goal, and avoiding obstacles by recognizing their distance away in relation to the speed at which they are being approached.

Such skills to nonpatients are automatic; to a brain-injured or disabled person, such a maneuver is tremendously complicated—and threatening. Because

- 56 the video games are nonthreatening and fun, the learning takes place more rapidly and with less trauma.

In like manner, astronauts and pilots train in expensive, elaborate, and technical simulators. A pilot of a Boeing 747, for example, never flies a real airplane until his first flight with passengers. That may sound horrifying if you have a ticket for this afternoon's trans-Atlantic flight, but the airlines have found that it is more efficient, cost-effective, and safe to train their pilots totally on computer-operated simulators, surrounded by screens much like the video screens of the games your children play. On those screens can be projected any situation at any airport. The computer, responding to the pilot-trainee's actions, "flies" as a real plane would fly in a given situation. How much safer it is to experience a problem in a simulator than in a real airplane with passengers! One of the primary skills developed by such simulators is eye-hand coordination—the connection between the brain's perceptions and judgments and the responses of the hands.

Logic/Pattern Skills. Because programmed video games basically work on an "If-Then" system (see Appendix B for a more detailed explanation), they are logical. A program must be logical or it will not "run." If a computer that is being programmed is confronted with an illogical step in a series of commands, it will stop. Some of them are programmed to be quite sarcastic when a programmer is operating them illogically: "Begin again, dummy."

Likewise, computers function on patterns. Blocks or series of commands form subprograms or patterns. The computer microprocessor "searches" the

memory unit for appropriate patterns before it can 57
react to a user's action—such as pressing the "Fire!"
button. If there were no patterns, the data would be
totally at random, and the computer "search" would
be delayed.

In output, patterns are displayed on the screen.
They may be visual patterns, such as the pieces of a
game board. Players learn—quickly if they don't
want to spend a lot of money—that the computer
program "thinks" in patterns. The patterns make
the game predictable. There is unpredictability built
into the program, if it is interesting, but even the
unpredictability has patterns.

Learning logic and patterns is a "peculiar" kind of
intelligence—peculiar in the sense that it may or may
not transfer into other areas of activity. Because one
person is able to solve thought problems logically
does not mean he can bake a cake or replace a light
bulb. However, within the computer and related
industries, the specific kind of intelligence that rec-
ognizes patterns and thinks logically has a wide
range of application in a number of careers.

Today's expert video game players are tomorrow's
input-output (IO) operators, central processing unit
(CPU) operators, programmers, design engineers,
and systems' analysts. They become accountants and
bankers and marketing people who can use desk-top
computers to review data, search for problems, and
make decisions based on logical trains of thought...
which are the same tasks computers do, making the
worker and his or her computer partners. As part-
ners, they "think alike," solve problems in similar
ways, and process data similarly.

But do video games actually develop logic/pattern

58 skills? No one at the moment seems able to say for sure. In all likelihood, inherent skills find expression in playing video games. Skills in many young people that might otherwise lie dormant and unused for years suddenly have an arena for use and development when the young people begin playing video games. But what application and career use the young people make of their developed skills depends not on the video games, but on the adults around them. Parents and teachers, if they recognize that such skills are being developed and are useful, can channel development into other areas.

Problem Solving and Planning Skills. From the moment a young person drops a quarter into the slot of a video game, he or she has a problem: Kill or be killed, eat or be eaten, fly through a maze or get blown up. Not only must the players solve dozens of problems in microseconds, but they—like the computer program against which they are playing—must plan ahead. Driving in freeway traffic at rush hour is simple problem solving/planning compared with playing *Galaxian* or *Vanguard*.

The element of *active* entertainment in playing video games is connected with problem solving/planning. If a game appeals to players, if it is to be challenging and frustrating enough to keep them playing, then the problems to be solved and the steps to be planned must be such that most players can handle them. Players must be able to plan far enough ahead to build excitement and anticipation—two main ingredients that make playing video games *fun*. The success factor and sense of accomplishment also come into play.

When a player solves problem after problem and

plans well enough to stay a jump or split-second 59 ahead of the computer program, then his or her sense of success and accomplishment soars. If she/he gets blown up, well, dig out another quarter and take on the machine again—perhaps having learned by trial and error or by logical thinking how to solve the problem that “killed” the ship in the previous game. Because the program repeats itself, the problem that blew up the ship *will* be presented again, enabling the player to approach the problem with a different tactic. By this process, a series of problem solving-planning techniques are built up. The difficulty is that the techniques are subconscious; few players *know* that they are learning problem solving-planning techniques. Therefore, they are usually unable to transfer such skills and techniques to educational or other “real world” situations.

Aggression Relief. “Who knows what evil lurks in the minds of men? Only the Shadow knows!” Anyone old enough to remember those lines probably is a computer illiterate! Anyhow, aggression is lurking in the minds and hearts of human beings. In our highly socialized, urbanized, population-dense society, aggression has few acceptable outlets. One outlet is to scream in anguish and rage at the referees on televised football games. When “some idiot” pulls his car in front of us without signalling, our brains scream, “Attack! Kill! *Avenge!*” but most of us do little more than yell.

We also take our aggression out in the form of “humor.” A number of “situation comedies” are based on “put down” humor that is thinly disguised hostility and aggression. “Up your nose with a rubber hose!” wasn’t funny, Mr. Kotter. “Stifle yourself,

60 Edith!" wasn't humor, Archie. In both cases the hostility showed through.

Conversations among young people also reveal suppressed aggression. "Put downs," "cold cuts," and "cut downs" are *the* most popular forms of humor these days, and it seems that the "best" cuts and put downs come from the "sitcom" television shows. There are whole books of such humor sold by school book clubs. When asked if such humor wasn't damaging or if it didn't hurt people's feelings, several teenagers looked puzzled. "No," one said. "It's just the way everybody talks."

Aggression comes out in physical ways as well as verbal. Open aggression has exploded in many schools, and vandalism, attacks against teachers, and fighting among students are some of the results. One teacher in an urban junior high school took an after-school job patrolling the building for extra pay. He was on duty with another teacher for one hour each day after the final bell rang. During one semester, he and his partner broke up forty-four fights: eighteen involved weapons, eight necessitated calling the police, and four required calling an ambulance. Weapons used in the fights ranged from tire chains used by the boys to beer can openers and fingernail files used by the girls.

For high school students, the aggression spreads geographically to whatever streets they cruise, drive-ins they haunt, and football games or dances they attend. Violence may erupt at any moment, usually over some trivial (to an observer) event. Being "flipped off" (if you don't know what that means, ask one of your kids) often is the beginning. It is followed by the escalator of intimidation that leads to a fight or,

worse for the teenager involved, to one person backing down.

Where can or should this aggression go? How can it be dissipated?

"Sure, I take out my anger on the machine," Jeff answered easily. He also readily admitted to identifying real people with the space invaders or whatever he was blowing up when he plays video games. An enemy on the screen is, as Jeff admitted, a whole lot better to "punch out" than a real person. Go into an arcade and watch the players. After they press the "Fire!" button and see an enemy blown to smithereens, watch their reactions. Watch the expressions of glee as the "mother ship" is hacked away by laser fire until finally it explodes—as the player exults in victory.

Aggression is being expressed—through the controls of the video games for the price of a quarter. No one gets hurt, no one gets into trouble, there are no recriminations. The players leave the game at least partially satisfied and relieved.

Do video games attack the problem of aggression in our society? They don't pretend to; they're simply for fun, and the release of aggression in a harmless way is a byproduct of the "kill or be killed" theme of the games. Do the games provide any lasting solution to personal feelings of aggression? No, and in all likelihood the build-up and relief of aggression in a cyclical behavior pattern is part of the addictive power of the games. More on that later.

Memory Development. The expansion of memory and an increase in the ability to retain information has been cited by a few researchers as one of the "pluses" of playing video games. The programs that

62 make any of the popular games work are complicated; they require that the player perform a complex series of functions almost unconsciously. For a player to become successful at any of the popular games, he or she must remember what the program patterns and logic are, although the player probably would not be able to verbalize those patterns and logic. Players become better as they feed quarters through a game because they remember a wide range of attack forms, kinds of attackers, patterns of a maze, and ways their ship or man can function.

It, therefore, is assumed that the players' memories are developed. It seems a logical assumption, but again, whether there is any carry-over into other situations is the question. That a player could remember the complex sequences of events, for example, of *Space Duel* does not necessarily mean that his or her memory for math facts has been increased. The capacity for memory is tied to motivation and interest, but motivation and interest may be present in the video game and lacking in other situations. While the ability to retain information may have been stimulated by video games, the application of that ability in other areas of experience may not occur.

Training Potential. As mentioned earlier, a number of organizations are using video games as training devices or are using the concept of video games in simulators as training devices. Medical personnel are experimenting with video games as a means of helping brain-injured patients recover from brain trauma. Educators in some areas are experimenting with video games and home computers in a modified form of CAI (Computer Assisted Instruction) to teach

even very young children logic and pattern recognition, math skills, planning and problem solving skills, and even cooperation skills. The latter area involves groups of elementary school children working together to program a computer to "draw" on a screen a picture of a house or some other object. Skills similar to plotting points on a graph are employed in building the sequence of tiny steps that make up the children's program.

The U.S. Army has contracted with Atari to build a tank simulation "game." Having trainees train in a simulator is far less expensive than using real tanks and ammunition. The problem that is being studied is the same problem that arises with all the other benefits of video games: Do the skills transfer to real-life situations? Are the benefits of training in simulators real enough so that the time and expense saved are worthwhile? If the tank simulators are made as effective as the simulators used by NASA and the airline industry, the answers should be positive.

How and why does training with simulators become more effective than actual "hands-on" training? Two of the motivations described earlier are at work: fun and success. There is also an element of competition in playing "games" as training, and it, too, increases trainees' incentives to learn. Having fun, being successful, and engaging in healthy competition make powerful inducements to learn—inducements that a few schools are discovering can make even routine instruction productive.

CAI has been used for at least a decade in many colleges, universities, private schools, and a few public schools. The programs are basically branching

- 64 programs—if the student answers correctly to one question, the program goes onto a branch that leads the student to the next thing he needs to know. If the student answers a question incorrectly, the program can pose the question differently or back up to a lower level of skill. The advantage is that each student can begin learning from his or her current level of skill or knowledge. The disadvantage is that there is no human interaction of a diagnostic or instructional nature, unless the teacher stands by the terminal. Reinforcement is built into CAI programs: "Good work!" "Keep trying!" Programs may also be "linear"; that is, they go on one line of instruction regardless of what mistakes a student makes.

In either a branching or a linear program, the student can progress at his or her own personal rate of learning, be reinforced for effort, and not have to worry about a teacher who must present material at an "average" level and rate.

Back to fears for a moment. "Do you want *your* child being taught by a *machine*?" "Computers are going to take over the classroom!" "I don't want *my* child made into some kind of robot!" In answer to such expressions of doubt and fear, most CAI personnel say their programs and computer terminals, keyboards and screens, can best be used with fundamental, repetitive material, material that must be learned by rote, and material that is factual and does not require discussion or explanation.

Few CAI people would suggest that a novel or short story be taught by computer or that a chemistry experiment be done with a computer. But math facts, languages, draftsmanship, business subjects such as bookkeeping, and many other subjects have

been successfully taught by CAI. The rate of learning is higher than with conventional teaching methods (largely because the students each progress at their own rate, at their own personal levels of knowledge and skill). The teacher can also be used in more productive, interactive ways. Much of a teacher's time is now spent in clerical, procedural, or basic instructional ways—ways that clog up his or her day and prevent “real teaching” that is interactive with students on a one-to-one or small group basis. Freed of routine chores by CAI terminals, teachers can spend more time actually teaching—expanding students' understandings of basic facts, discussing implications and applications of knowledge, and working through problems. 65

So why isn't more training done by computers, using video game techniques? Computer literacy, the lack of it, is one answer. The mistrust of computers most people feel (myself included) prevents us from employing the most modern, efficient *tool* we have available. Yet the training programs of more and more industries are conducted at CAI terminals. Training time is shortened, skills are learned more rapidly and effectively by trainees, and the transfer of CAI learning to on-the-job situations is surprisingly high. Does that fact mean that our young people are learning things with video games that could be transferred to real-life situations? Certainly.

Game Research. Do the R&D departments of video game companies produce research and spin-off products that have applicability in other areas? Some of the companies claim they do. It is claimed that research by video game companies carries over into improved toasters and other appliances and has led

66 to the development of medical equipment, such as scanners. The video game industry is the primary consumer of microchips, and its need for cheaper, better, bigger components certainly stimulates the shrinking and cheapening (as well as the increasing complication) of microprocessing components. Stimulated by the flood of quarters pouring through the video game machines, the entire computer industry advances.

"But what do they get out of it?" No one can say for sure. There are short-term benefits, such as the harmless release of aggression, and some long-term benefits, such as improved computer technology. But as to the other benefits? It largely depends on what people individually make of them.

On the other hand, there are hazards or dangers involved in the world of the video invaders.



Do Video Games Harm Anyone?

Perceptions of experiences are more important than the experiences themselves. There are people who can find joy hidden in even the most tragic situation, and there are others who cannot be satisfied or made happy no matter what their experience of joy. We see ourselves and our experiences uniquely, and "real facts" are distorted and shaped and changed by any number of factors—how we feel about ourselves, our memory of past experiences, and our expectations of a situation.

Thus many people see nothing but fun and entertainment in the world of the video invaders, while other people see only dangers and problems.

The latter group has brought about the passage of a number of city ordinances that attempt to limit either the age of players of video machines or the hours they play. The communities of Babylon, Long Island; Bradley, Illinois; Oakland, California; Marlborough, Massachusetts; Pembroke Pines, Florida; Durham, New Hampshire; and Mesquite, Texas, have

- 68 all passed ordinances restricting the playing of video games by teenagers or younger children and/or the hours they are allowed to play.

Some ordinances require that any young person under fourteen be accompanied by an adult or parent. That is the requirement of the ordinance passed in Mesquite, and it is being reviewed in the U.S. Supreme Court after having been overturned in two lower courts.

Perceptions alone are not the only difference between groups, however; actual experiences differ from community to community. The reasons cited for passing the antivideo game ordinances are that school age children are skipping school, breaking into parking meters to steal quarters, stealing game money from their parents, forming rowdy gangs, starting fights, smoking marijuana on game center property, and so on. Reasons given by game owners and makers for overturning the ordinances are that the games provide harmless fun and recreation, healthy mental and physical exercise, and develop specific skills.

If you saw a gang of teenagers outside a video game center, smoking dope and shoving a younger kid around, you would see a community problem that required action. If, on the other hand, you saw a large number of people of all ages quietly playing video games and having fun with families and friends, then you would see a community benefit.

There have emerged from the scanty research and limited number of articles about video games at least eight specific dangers connected with playing video games. None of these dangers involves the incidental acts of smoking marijuana, fighting, or rowdy

behavior that go with the gathering of any group of undisciplined young people. The eight specific dangers are mainly psychological; because of that fact, researchers have had a difficult time pinpointing connections between video game playing and any specific personality disorders.

Therefore, while the categories of dangers presented here are from the literature about games, the concerns and discussions are from the players themselves.

Kill or Be Killed Mentality. The counterpart or companion of aggression is fear. I may at times become so angry at someone that I want to "punch them out," but at the same time I am afraid that someone will want to do the same thing to me. Desiring to do harm to someone else often backfires and comes home to haunt us in the form of fears that other people want to hurt us. We'd love to blast the Iranian madman or the "dirty commies," but we're scared to death someone will break into our home or mug us.

Thinking in terms of violence and potential violence becomes habitual. People in large cities who have never been robbed or assaulted have front doors that look like a locksmith's nightmare and windows that would make the protection system of the National Art Gallery look simple. Guard dogs and high fences, electronic devices and deadbolts are advertised in everything from *TV Guide* to flyers stuffed in your mailbox.

Movies and television programs feed the fear. Monsters, ghouls, demons possessing "nice" people, ax murderers and maniacs loose in the streets are regular fare for many of us—especially our young people. "Doesn't watching all those horror shows

70 give you nightmares?" I asked one teenaged girl. "No," she replied, "but watching the six o'clock news does." Yet, our young people assimilate and store the scenes of bloodshed and violence.

For good or bad, video game manufacturers have tapped into a central section of the American psyche by making so many of their games hinge on the "kill or be killed" theme. Don't some of us admire the western gunfighters and scoff at the historians' statements that the gunfighters were really few and scurvy? Don't we admire the Green Berets, and policemen who shoot to kill rather than sending a murderer through the "revolving door" of the American system of justice?

"Does it bother you, this 'kill or be killed' part of video games?" I asked one player.

"No; I like it," he replied quickly. "It's a challenge, and I know I can't really be killed. It's fantasy."

But he had stiffened, shoulders raised and hands going into pockets, when he said "... it's fantasy." "What do you feel like when you leave the arcade? Do you look at people differently, watch strangers more carefully?"

He laughed and shrugged. "I guess so. I never really thought about it."

So who can say for sure? Do the video games simply make use of an unhealthy part of our society or do they contribute to it? Does playing the games ventilate aggression and hostility or increase the underlying fear of attack many people feel? The answer would depend on the player.

If a player were inclined toward paranoia, some games definitely would increase that tendency. *Berzerk* has been cited as one appealing to such people.

Should young people therefore be discouraged from playing *Berzerk*? Not necessarily. The interaction of game and player is something that should be studied, not the player or game separately. 71

What of the aggressive young people who tend to become violent for little or no provocation? Don't the video games encourage them to be violent? Is their aggression reinforced rather than relieved? Possibly. I've seen several "young punks" swagger out of arcades as if looking for real robots or space invaders to destroy, and I've gotten the feeling that if I asked them some simple question, they'd "lase" me. But it was only a feeling.

Violence. Akin to the foregoing category is the one of violence. Do video games encourage it? The sounds are violent; the lights, while seductive, are violent; the action is violent. Surely, associating for hours with machines of violence would promote it. There is, however, no evidence to support that claim. As with the debate concerning the effects of television, there is no undebatable proof that vicarious or second-hand experiences with violence produce or even encourage actual violent experiences or acts. Blowing up attacking spaceships does not translate, necessarily, into real attacks. The possibility, though, does exist.

"But," I asked Jeff, "when you identify real people with the enemy on the video game screen, what happens when you meet that real person? Does your anger continue?"

"Yeah," he answered, tilting back his head thoughtfully, "I've thought about *really* blowing them up." He quickly looked at me. "But I wouldn't...not really."

72 The anger, the hostility does transfer, though. The question must be asked, "If the anger transfers, what would it take for the violence also to be transferred?" Maybe not much more than an unkind remark or gesture from the "real enemy."

The facet of violence in video games and in movies, television, and even on records that is most disturbing is the one of *possibility*. When you only hear about violence, it seems less real, less possible. But when you see violence or experience it, it leaps out of the realm of fantasy or rumor and becomes genuine. Does experiencing violence on the video game screen make violence in real life more *possible*? It seems logical, but is it? Does vicariously experienced violence lead young people to subconsciously or consciously *expect* violence in the real world?

What about violence as an option, a choice of behavior? Does vicarious violence acted out while playing a video game make violence as a way of reacting to real-life situations more attractive? After all, if you can solve problems on a screen by violence, why not on the street? Many people's instinctive reaction to threat is violence; only with training and restraints are we able to keep our violent impulses in check. Does "game" violence test those restraints? I believe it does.

It seems that the presence of fear, the frequent use of the escalator of intimidation as a problem solving technique, the cultivation of the "kill or be killed" mentality, and the constant presence of real or vicariously experienced violence *does* lead or contribute to a breakdown of restraint in many young people. The reason many young people are disrespectful, lash out verbally or physically, or become

violent is that violence as an *optional behavior* is frequently shown to be permitted—by movies, television programs, and video games.

Video games are not isolated; they are part of a widespread pattern of *showing*, in dramatic and seductive ways, that violence is not only possible but allowed.

Does this mean that video games should be banned—as President Marcos did in the Philippines—or controlled and limited, as the leaders of Irvington, New York, tried to do? It is the same question America went through during the debate before Prohibition. Is the evil in the thing or in the person? Would the person become evil if the thing were not available? But the countering argument has massive support in the American mentality which says:

“What right have *you* got to tell *me* what to do, much less tell me that what I’m doing is evil just because you think it is?” That question brings up the more general one: Should government attempt to legislate morality? *Can* it? And if it tries, who will enforce such legislation?

In several places, the American Civil Liberties Union is locked in legal battle with local citizens determined to prevent “evil” from being available to their young people. But where an existing ordinance is in effect, enforcement—as with all “social laws” that do not involve victims—remains the problem. Would even properly written laws and consistent, efficient enforcement do anything about the potential violence that may be encouraged by video games? No.

Immediate Gratification. Immediate gratification means getting what you want *now*. The reward or pay-off

74 for some task or effort is promptly given and promptly enjoyed. The contrasting form of gratification is "delayed" or postponed gratification, which means you have to wait—sometimes a long time—for your reward or pay-off.

Viewed in one way, America was built (not conquered or settled, but *built*) by people who had learned delayed gratification. They were willing to build for the future generations; they were willing to postpone short-term enjoyments and save their money to invest in long-term projects—farms, corporations, family businesses. The idea of delayed gratification is to a large extent connected with religion, particularly Christianity. The world and all things of the world and flesh are passing, quickly fading things—like the grass and flowers of today; but the eternal values, rewards, and beliefs are enduring and do not fade; they are not parts of this world we like to call reality. In religious terms, immediate gratification means yielding to sensual pleasures, carnal appetites, material and other kinds of temptations at the expense of giving up eternal life and rewards that can only be gained by in part delaying gratification.

Not only is gratification connected with economic and spiritual matters, but it is closely tied with social matters and some people's expectations of society. Somehow the idea got started that "the world," "life," or "the government" owe some people something—happiness, material well-being, basic food and health support. Not only have some people become addicted to the idea that "somebody owes me something," but they want that something *now*.

Immediate gratification has received a boost each time the American standard of living has gone up a

notch. As people's incomes grew, their extra money and time grew. And with that money they bought products to fill their spare time. Today, what have become "necessities" to us—like air conditioning, a washing machine and drier, upright two-door refrigerators, two cars—are outright, rarely possessed luxuries in most of the rest of the world, even in industrialized nations.

Video game machines incorporate the principle of immediate gratification. From the instant a player drops a quarter into the slot, she or he is rewarded: Lights flash, the machine responds, it talks or writes messages to the player, sounds go off. When the game begins, even the worst player can receive some immediate pleasure by chomping up an electronic cookie with his *Pac-Man*, by de-segmenting the *Centipede*, by blasting a robot, or by disintegrating an invading spaceship. Players do not have to wait a month for a paycheck; they do not have to wait a week to find out if they passed or failed a test. They have a pay-off *now*.

Once again the chicken-or-the-egg question arises. Do video games create the seduction of immediate gratification? No, they merely make use of it. Do the machines draw children away from eternal values? No, but indirectly they contribute to the drift. Do the machines' makers see themselves participating in the decrease in saving, the increase in reluctance to put off something enjoyable today for something more enjoyable tomorrow? No. Some video game designer somewhere may have thought such a thought, but I doubt he discussed it with anyone.

So are video games at all at fault? Yes, to the extent that they reinforce what is an unhealthy

76 expectation—for individuals and for the nation. When our young people are *conditioned* to expect immediate gratification for their efforts, then education, religion, family living and sustenance, and many other areas that require long-term, persistent effort all suffer.

Even friendships suffer because of the conditioning toward immediate gratification. A friendship is patiently built over a long period of time. But many young people express things that show they have confused infatuation and superficial attraction or interest with friendship. One exacerbating factor is the mobility of American families. A popular song asked, "Doesn't anyone stay in the same place anymore?" No, they hardly ever do, and that fact contributes to quickly formed, quickly broken relationships. Mobility plus the expectation of immediate gratification blend for a philosophy of "Get it quick, and get all you can, 'cause you may not be here tomorrow." Video games contribute to the reinforcement of that idea and certainly do nothing to reverse it.

Fun Versus Learning. Even though I said earlier that schools and teachers could make use of CAI and video games to make learning fun for bored, restless students, we should not expect *all* learning to be fun. Much of what we learn we learn by simple hard work. School should be a place students *want* to go, but there must be motivations for learning other than that it is fun.

Learning should be challenging. It should match instruction with the interests and needs of the students. But even those two statements cannot always apply to what is taught in schools. There are large segments of learning that have no challenge, are not

fun, and do not immediately match students' interests or needs because the uses for that knowledge have not yet appeared in the students' lives.

Is reading a novel—or learning the periodic table in chemistry or the Amendments to the U.S. Constitution or what a frog's eye looks like inside—in the category of entertainment with video games? To some extent the answer depends on each teacher (and teachers who survive more than three or so years tend to be part entertainer/actor).

However, video games do build expectations. Immediate gratification is one. The idea that life must be or even can be fun and entertaining is another expectation. Some of us even go to church expecting to be entertained. Others sit in front of a television or hang around our spouses and wait to be entertained.

The opposite of passivity, of course, is activity. Video game makers claim that part of the reason they make their games the way they do is to provide active entertainment. To some extent, that's true; there is some involvement, some activity in playing a video game. But while hours are spent in that form of "activity," and while the expectations of immediate gratification and fun are building up and being reinforced, what other kinds of activities are the players choosing not to participate in because they require *more* action or provide less immediate gratification and fun?

Not every young video game player is going to grow up to be a computer programmer or technician; there just aren't that many jobs in the computer industry. Yet, when you ask the players about their futures, even the high school players, very few

78 have any concrete ideas or plans. To most of them, the future is a blank, and the passive, fun-oriented reinforcement provided by video games contributes to such lack of concern and lack of aggressive searching after tomorrow.

Am I suggesting that childhood should *not* be fun? That young people should begin the work-work-work syndrome as soon as possible? Not at all—though a growing number of them do have steady jobs. But there is an identifiable, very specific danger in allowing young people to grow up assuming that life or learning *should* be fun: It just isn't.

Time Consumption. Many of the town councils who passed ordinances regulating video game playing did so because they knew that children were skipping school to play the games. They knew that teenagers were "hanging out" at the game centers and arcades, as teenagers and others once hung out around pool halls, then pinball machines. Teachers will readily say, "Why, if he'd spend as much time studying as he does playing those games, he could be an 'A' student!" Their cry has validity. Approximately 75,000 man-years were spent last year by people playing video games.

But what percentage of that time would have been spent more profitably or productively if video games did not exist? If there were no video games in your city, would your children be home studying? Most children can find plenty of excuses to delay or forget about studying without using the excuse of video games.

"Where would you be if you weren't here in the arcade?"

They look at one another, this group of twelve- to

fifteen-year-olds. One shrugs. "Ridin' around, I guess." 79

"Watching television," another says with a bored look.

"Shouldn't you be home studying?" I asked.

"Naw. Teacher gives us time in class, an' I finish my work there," one replies.

"What about studying on your own—just to learn more?" I wonder aloud.

They simply stare at me.

Young people who want to make "better use of their time" do so; those who see no reason to try, to make extra effort, to learn on their own or pursue their own interests with internal motivation, don't.

Dollar Drain. The economic drain caused by the booming video game world has caused concern among some groups. Parent-teacher associations discuss the use of lunch or milk money for video games instead of food and milk. Parents cite examples of an older child extorting money from a younger child, then being found in a video game center. And 20 billion quarters is a lot of loot!

But again, are the video games to blame for consuming either time or money? If young people choose to spend their time and quarters on the games, are the games at fault? In cases of addiction, possibly the answer is yes. But otherwise. . . .

"If you weren't spending your money on video games, how would you spend it?" I asked some high school students.

"Gas-o-line!" several boys shouted, laughing.

"Maybe on a movie," a girl thoughtfully answered. "But for the price of a movie ticket—four dollars—you can play sixteen games, and if you're any good, which I am," she said proudly to her friends, who



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noded in agreement, "sixteen games is a *lot* of fun."

Other answers ranged from buying toys to records, buying soft drinks to snacks. Only a few said they would have saved the money.

Shannon, one of our earlier subjects, said that he had learned to put a limit on what he spent. He might spend ten or so dollars (and other children might spend twenty or more) learning how to play a new game, but thereafter he would take only a dollar or two into the arcade. When that money was spent, he would leave. "Taking a dollar or two makes me a better player, too," he added, wriggling his fingers as if reaching for game controls.

Where does all the money go? Into the game manufacturers' accounts and into the computer and attendant industries. No one seems to know how much leaves the country for Japan, but a considerable percentage remains here at home. So when people talk about a "dollar drain," to what are they referring?

The flow of money from place to place has its own tides and currents, and a large current has shifted with the booming video game world's popularity. Is that a danger?

No, but when a child steals or extorts money to play a video game or uses his lunch money to play, the "dollar drain" becomes real and personal . . . and both a problem and a danger.

Compulsiveness Cultivation. A compulsive person has to do certain things; the compulsion may involve drinking alcohol or coffee, smoking, biting fingernails, or whatever. Compulsiveness—whether connected with gambling, alcoholism, wife beating, or child abuse—is tied to addiction: something the person involved can't stop or control by him- or herself. It has been charged that video games cultivate compulsive behavior and lead to addiction.

Game players estimate that less than ten percent of other game players become addicted. But every player can name several other players who are addicted, who do play compulsively. Jimmy is typical; he couldn't quit if he had to. His life has become so involved with video games that without them he practically would cease to exist.

Video games almost deliberately appeal to compulsive behavior. The lights *are* seductive. "I'm *drawn* to them," one eleven-year-old said. "They're *nice*!" The sounds also are seductive. "The noise it makes pulls you right to it!" a girl cheerfully said. The comforting aspect of the arcade refuge does much to encourage players to enter a world of their own and remain there until the last quarter is gone. "Coin detected in pocket," says the computer voice of *Berzerk* when a game is over. "Coin detected in pocket!" That challenge itself is enough to encourage compulsiveness.

The response of many players is to accept the

- 82 challenge, to try one more time to beat the machine, to not give up. After all, the frustration level built into the games is designed to make each player feel it is *his* fault that he lost.

The counter-argument a video game maker might present is clear. If compulsive personalities are not hooked on video games, they'll get hooked on something else, maybe something worse—marijuana, beer, soft drinks, cigarettes. The owners and operators of the arcades *are* concerned about the addicts, the compulsive types, but they have no idea what to do about them. They feel that city ordinances to limit video game playing harm everyone involved and do little to limit the compulsiveness of a few. Even so, some arcade owners will admit that the compulsiveness cultivation is "part of the business."

Asocial Aspects. Asocial behavior simply means that a person lacks social skills or tends to reject social interaction. It means a person is unfriendly, uncommunicative. It means a person exists for the most part in a private world and may become lost in that world. Asocial people are not antisocial. They are not *against* society; they just do not function well in society or need society.

Superficially, an arcade or video game center is an asocial place. People just stand in front of machines, facing screens, manipulating controls. Players do not usually speak to one another, much less carry on conversations; the noise level is too high, and talking breaks one's concentration. There are usually more boys than girls, and boy-girl relationships do not seem to have any part in playing the games. People tend to come in alone and leave alone unless they

come with a group of members of their own sex and age and leave with that same group. On the surface, video games promote asocial behavior.

That statement undoubtedly is true for many of the players. They do tend to be asocial people who would rather spend their time and money on solitary pursuits. But do the games develop asocial people or do asocial people simply find game playing satisfying and nonthreatening? Do the machines promote a lack of interaction among people, or do people who lack social skills and who find interaction with other people difficult make their way into arcades and game centers? Each product, if it is successful, finds its audience.

Still, there is a danger involved. Assume that asocial people find and enjoy asocial games. Assume further that in our society, socialization is a positive value. How then can an asocial person become socialized if he or she never takes or makes an opportunity to learn social behavior? If a young man who is shy with girls finds success and achievement with a video machine, how is he ever to learn how to deal with boy-girl relationships?

The comeback is that he wouldn't learn to become social if there weren't any video games around. But he might. He might have to interact. Someone might have the chance of drawing him out of his shell of self-doubt and skill-lessness if he weren't always standing in front of a machine, manipulating it.

But the asocial view of video game centers and arcades is merely isolated or superficial. Nolan Bushnell, who invented *Pong* and began Atari, has become one of a growing number of entrepreneurs

84 to combine social activity with video games. He began Pizza Time Theatre in California, and by the end of 1980 there were twenty-seven outlets in twenty-five states. The concept behind the theatres is to involve the entire family in leisure time activity. Families eat together, then play video games together. Age groupings are fine—children with children, adults with adults—but at least the family group is in one place, engaged in one activity that they can later talk about and share as a unit.

Another social aspect has to do with the "Everybody's doin' it!" element. Because most teenagers and college students have played video games, the games are a common topic of conversation and a common group activity. Groups may go into an arcade on their way to some other activity, or they may make a night of playing the games. If you watch the customers in an arcade or video game center for a while, more social activity is in operation than might be apparent initially if you just focus on people standing individually at machines.

So there are asocial players and social ones. The fact remains that asocial behavior is at least reinforced if not cultivated in some players by video game centers and arcades.

None of the foregoing dangers operates in isolation. An asocial person can develop a "kill or be killed" mentality that might change just the possibility of violence into violent acts. A player who has his need for immediate gratification reinforced can begin to spend all his time and money on the games, thereby having his compulsiveness cultivated to the point of addiction. A compulsive young person from

an upper-middle-class family with plenty of money, 85
a lack of discipline, and no supervision easily could
slip into thinking that life must always be fun and
that school and learning in general are totally un-
necessary. What's to be done?

We now plunge into the challenging world of
what *you* can do about your child's video game
habits.

7

What Can Parents Do?

In presenting possible remedies to the dangers of video game playing, there are several cautions. First, advice is cheap; experience, unfortunately at times, teaches us best. We are rarely willing or able to *do* anything about a situation until it reaches a crisis.

Second, no solution or remedy will work without action. Some people verbally adopt or agree with solutions but never translate that agreement into behavior changes. If any of the following suggestions is to be effective, it must result in *behavior* change. The change must become as habitual and consistent as the compulsive behavior (or addiction to video games) it replaces. Otherwise, a "solution" is merely a bandage.

Third, one person's cure is another person's yawn. What may have worked in helping someone else's child develop social behaviors instead of asocial video game playing behavior may not apply at all with your child. What has helped one teenager develop

- 88 self-discipline in relation to video game playing may slide off your teen like assignments from teachers.

Fourth, make sure you have a problem before you act. The foregoing chapters have made it clear that by no means is all video game playing harmful, though potential dangers are present. You, as a parent or other concerned adult, need to begin searching for remedies only if you have contact with a compulsive, addicted child, or one who is showing you definite asocial behavior or who is drifting into values you cannot accept. The following checklist, based on our friend Jimmy, may be useful:

- Does your child skip school to play video games?
- Does your child spend all or most of his or her money on playing video games?
- Does your child appear to be asocial? Does he/she lack a balanced social life with friends of both sexes?
- Does your child seem to be excessively fearful without cause? Does he/she flinch at sudden noises, cry easily, seem to brood or remain depressed for longer than a few hours?
- Does your child have sudden outbursts of temper or violence? Is he/she abrupt and unreasonably loud or aggressive in response to ordinary questions or demands?
- Does your child demand immediate gratification, or is he/she able to postpone gratification if some worthwhile, long-term goal is presented?
- Does your child persistently think badly of him- or herself, feel without worth or value, and often put him- or herself down?

-
- Does your child seem excessively passive, 89
waiting for someone to come entertain him/
her?
 - Does your child have problems in school?
Have you asked his or her teacher(s) how,
specifically, your child is doing?
 - Does your child show compulsive behaviors
such as *having* to have certain objects (a blan-
ket, for example, or a toy animal) around
him/her, having to do certain things in set
ways, or being dependent on soft drinks,
candy, or playing video games?

There is no "score" for the checklist, but if you answered a number of the questions "Yes," then you *may* have a problem. If you have a serious problem, go to a family counselor, minister, or psychiatrist. Serious problems do *not* "just get better" or go away; they cannot be ignored! And dealing with a problem in the first or third grade is far better than having a high school "graduate" come home after failing to find employment and saying, for example, "But Mom, I just can't read."

Now, to some things you can *do*:

Discipline. I asked my "computer nut" and video game playing friend Kent, who is unmarried and in his twenties, what he would do if he had a child who was addicted to video games. His immediate, unqualified, unhesitating answer: "Discipline."

I asked Shannon, who qualifies as an expert video game player, what he would do about the kids he sees always hanging around the games, hooked on them. His answer? "Their parents should discipline them."

The *same* answer came unprompted from *every*

90 video game player with whom I talked. But when I talked with a retired psychologist about how to treat compulsive personalities, his answer was rather vague: "Well, they are pretty hard to deal with; you need to provide alternate stimuli, aversive conditioning maybe, or maybe behavior modification and...." I'll stick with what the game players themselves told me.

Dr. James Dobson in his book *Dare to Discipline* set the overall picture of discipline when he wrote:

When properly applied, discipline works! It permits the tender affection made possible by *mutual* respect between a parent and child. It bridges the generation gap which otherwise separates family members who should love and trust each other. It allows the God of our fathers to be introduced to our beloved children. It permits a teacher to do the kind of job in the classroom for which she is commissioned. It encourages a child to respect his fellowman, and live as a responsible, constructive citizen. As might be expected, there is a price tag on these benefits: they require courage, consistency, conviction, diligence, and enthusiastic effort. In short, one must *dare to discipline*.

Dr. Dobson goes on to list (and discuss) five key elements that are paramount in discipline, to which he adds a principle:

1. Developing respect for the parents is the critical factor in child management
2. The best opportunity to communicate often occurs after punishment
3. Control without nagging (it is possible)
4. Don't saturate the child with excessive materialism

5. Avoid extremes in control *and* love

... I am recommending a simple principle: when you are defiantly challenged, win decisively. When the child asks, "Who's in charge?" tell him. When he mutters, "Who loves me?" take him in your arms and surround him with affection. Treat him with respect and dignity, and expect the same from him. Then begin to enjoy the sweet benefits of competent parenthood.

Discipline is largely a matter of style. I discipline my children differently from the way you discipline yours, and I have no right to say that you should do this or that in disciplining your children. But there are guidelines to discipline. It is useful to break the subject into two sections: before-the-fact discipline, and after-the-fact discipline. The same guidelines and principles apply in each section, but the "before-the-fact" discipline is more guidance, and the "after-the-fact" discipline is more punishment.

Before-the-Fact Discipline

Guidelines

1. Discipline should be perceived by the child as being *fair*.
2. Discipline should be delivered in a *consistent* manner.
3. Discipline should *guide* or *punish*, not confuse or break.
4. Discipline should be delivered *dispassionately*.

Let's expand on the guidelines somewhat, in terms of what you can do "before-the-fact"—before the child disobeys or commits a "crime."

92 Discipline, and even punishment, is almost always seen by the adult as fair. Even if a voice in our heads says that the discipline was not fair, we can quickly rationalize it: "Well, he had it coming for what he did yesterday...or last week." Most children, whether or not they will admit it, *know* when they have done something *wrong* (and "wrong" is definitely, though not always, different from what simply displeases the adult). They know when they deserve discipline, and if they do not get disciplined when they know they need it, they are inwardly disappointed and lose respect for the adult. *And* they will take their behavior a step further...and a step further until they find the line at which the adult says, "Stop! You will go no further."

Guidelines, boundaries, do's and don'ts are essential to a child's life, because one of the underlying fears of children is loss of control. They may yearn for control, but they also are afraid of losing control of themselves—of their emotions, imaginations, and behavior. They actually may be afraid of killing someone or doing something "crazy." I have taught emotionally disturbed children and found these same facts to be present in all but the psychotic ones. The young people may not *do* what is right, and they may suppress the voice inside them that says what's right and wrong, but they *know*. And knowing leads them to expect discipline and control, even though they may say they hate it.

At the same time, a child is a perfect little judge. "You can't fool a kid or a dog." They can spot hypocrisy a mile away at a dead run. They can spot a phony who is rationalizing some unfair action, who is projecting some personal frustration or prob-

lem onto the child's behavior, or who is reliving his 93
or her own problem-strewn childhood. In some situations (I don't do this unless I trust the child) I have asked children, either before or after a "crime," "What do you think I should do to discipline you—what guidelines and punishments do you think are fair?" Their suggestions usually surprise me (except on the subjects of bedtimes and keeping rooms clean). First, they select discipline that is harsher than what I would have picked. When I ask "Is that what you think I want you to say?" they shake their heads. Second, they pick an absolutely fair discipline or punishment. Their punishments apply directly to their "crime," and the guidelines are designed to keep them or someone else from being hurt. Their answers amaze me:

"Watch me ride my bicycle to make sure I don't leave the neighborhood or don't watch out for cars."

"Don't let me handle the china if you think I might break a plate."

"I dunno . . . give me some chores or something to keep me busy."

"When I get a lot of money for my birthday or something, you keep most of it and just give me what I ask for when I need it."

"Move me to the other side of the class so I can't talk to her!"

"If I come in more than thirty minutes late, ground me for a week."

Are they going to *volunteer* such guidelines, *ask* for your loving guidance and attention, *make* you control their behavior? Only indirectly. You are the adult; *you're* supposed to know such things. They know what's fair, usually, but won't usually say anything

- 94 until after they see what you are going to do. So, does being fair mean letting the child run wild, set his/her own rules? Not on your life! But in terms of long-range effects, bitterness and resentment are worse than disobedience. Life tends to correct disobedience, but what extracts the "root of bitterness"?

Discipline should be *consistent*. There is a rule among officers in the armed forces: Once you give a command, you'll always have to give that command. So it's wise to minimize your commands but make them stick—always. No human being is consistent for long. Different moods strike us; pressures build up and go down; situations change. But discipline should be as consistent as possible, and the rules should be as important and as few in number as possible. Given consistency and understandable, fair rules, a child usually will obey unless she/he has a rebellious spirit that must be tamed with love.

Discipline before the fact, the "crime," is *guidance*. No one can tolerate for long being around someone who hasn't said what makes them angry or disappoints them. If your employer sat in his or her office with a deadpan face and simply told you, "Act and dress any way you want to," you'd develop paranoia waiting for the explosion. Besides, it'd drive you "bonkers" trying to figure the person out. Children feel essentially the same with parents. Parents often are too tired or preoccupied to communicate expectations verbally and before a "crime" to reassure children.

Yet, the kids *want* to obey. If you tell them, "I don't want you to go to the arcade more than twice a week or spend more than a dollar each visit," that's enough for most children. The fact that you said what you expect often is sufficient for any child

above the age of three (three or so being the year of "Why! Why!").

When giving "before-the-fact" discipline, it is *not* necessary to justify or even explain your expectations and rules. You are the parent, and the child is the child. As Dr. Dobson said, "When the child asks, 'Who's in charge?' tell him." You do not have to brutalize or grind down your kids, but neither do you have to feel guilty or defensive when you make a reasonable request or demand based on your *adult* judgment.

Finally, discipline—whether before or after a "crime"—should be delivered dispassionately. "Easier said than done!" Well, not if you don't let things build up inside you, then explode all over your children. There's the story of the man at work; his boss yells at him, he goes home and yells at his wife. His wife goes in and yells at the oldest child, who yells at the youngest child, who walks over and kicks the whey out of the dog. The dog looks heavenward and mutters, "Why me, Lord?" If you make decisions when a situation arises and don't ignore or carry over problems, then stresses are less likely to build up within you that result in passionate explosions.

One of the attractions of video game centers is their *refuge* nature; another attraction is the escapism the games provide; another is that video game playing can become a passion, an addiction. If you set a role model or example of beastliness that drives children away from you, of scorn and disapproval, or of passionate displays of emotions, then *you* and not the child are creating the tendencies that hook up with the appeals of the video games (or smoking, beer drinking, or whatever).

If your child(ren) fit well inside the checklist given

- 96 earlier, discipline them before the fact without fear that they will stop loving you. They may become angry or say awful things at the moment, but they will inwardly respect you for having drawn a line, for having set limits and rules, and for helping them control their own developing behavior.

After-the-Fact Discipline

Punishment is currently in disfavor, especially corporal or physical punishment, among such groups as the American Civil Liberties Union, various judges, and a number of "enlightened" parents. Why? Because the idea has developed (primarily from humanism and "progressive" education) that a person is a person no matter what his or her age and people have rights that are inviolable and that no person's rights should infringe on another person's rights. Punishment is considered barbaric, uncivilized, damaging to little ones' psyches and natural inclinations, unsophisticated, or downright brutal.

Such antipunishment sentiments often are tied to reactions against child brutality. Rightly so. No one in his or her right mind would advocate the kinds of "punishment" that result in broken bones, burns, and the many "accidents" that befall hapless, abused children.

However, punishment is nothing but a consequence of certain forms of behavior. I cringe when I overhear a teenager say to a peer, "Yeah, I got busted for having some marijuana in my car, but my dad got me out of it." Is it proof of love and concern for our children to step between them and the consequences—the punishment—for breaking rules and laws? No, I

would not *want* my son or daughter to go to jail, 97 considering what jungles of perversion and crime cultivation most of our jails are. But neither would I allow my son or daughter to avoid the consequences of a crime.

Punishment, as the cliché says, should fit the crime, and that does not mean "an eye for an eye." A child probably should not be spanked for coming home a half hour late, but a spanking would be in order for deliberately hurting another child. It does not teach a child that violence brings violence to spank him or her for hurting another person or property, or for lying or stealing. What punishment teaches, if delivered according to the same guidelines for "before-the-fact" discipline, is that consequences follow behavior (and I pity the children who feed on exceptions to that principle, who develop the idea that doing right or wrong isn't what matters, but that what matters is "not getting caught").

But punishment is a hassle. It means you have to suspect your child rather than trust him; it means you have to catch him in some "crime" or have reliable witnesses that a crime has been done by him. It means that you have to hurt your child—and, in your own mind at least, risk losing his affection or love. Who likes that kind of hassle and worry?

The opposite extreme is the unusual parent who takes his or her frustrations out on children. Spankings and whippings of children, to such people, are an "acceptable" substitute for telling off the boss, punching out some stupid driver, or cursing at a policeman.

Between the extremes of doing nothing or too

- 98 much is an area of punishment that children by and large know is fair and expect, provided they knew they were breaking a rule when they did so. If you have told a child what you expect, and the child—by his own will or by being persuaded by a “friend”—breaks that rule, then the child knows “he’s goin’ to get it.”

At that point, many parents verbally punish a child. Verbal abuse is prolonged torture. “Just get it over with,” a child pleads. Anything is better than being sniped at with hostile comments over a period of hours or days. Even a whipping is preferable to many children than a “talking to,” at least when some definite harm has been done.

When you have a child who skips school to play video games, is he asking for your discipline? Is he asking for attention, for love? Whatever his or her motivation, if you have told the child not to skip and he does, then punish him—even if the school already has punished him. The same response applies to a child who steals money to play the games, spends more time or money than you have told him you will tolerate, or exhibits abrupt or violent responses out of proportion to the situation.

Punishment does not have to be physical or verbal, as most parents have learned. Denial of privileges is the most obvious alternative. A child who disobeys may actually be asking to be kept under thumb for a time; he may feel a need for someone else to control his behavior for a while. Seeing to it that he comes straight home after school and does not go to the video game center until he can earn back his privilege is effective—unless both parents work.

If you cannot pick your child up after school and 99
take him or her home, then take the child back to
work with you and enforce the removal of privileges
(you'll also be giving him another privilege—that of
being with you). Or ask a neighbor or babysitter to
fill in for you. Yes, that's a burden on them, and yes,
that's a poor substitute for what the child is probably
demanding—you. But the fact that punishment is
difficult to deliver consistently does not remove your
responsibility.

Problems do not go away. Stages or phases may be
grown out of—such as the sloppiness and rebel-
liousness of sixth and seventh graders—but problems
only get worse. Would you rather have a policeman
and a court punish your child . . . or you?

Self-Discipline. Self-discipline is not something par-
ents can *do*, but by their example and use of disci-
pline, they may encourage and teach their children
to control themselves.

Shannon and several of the other players stated
categorically that self-discipline was how they kept
themselves from becoming addicted to playing video
games. They all freely admitted that "The lights are
nice to look at," that "The noise it [the game machine]
makes draws you right to it," that the challenges of
the computer-generated voices of the machines and
the arcade itself were seductive things. In other
words, they recognized the danger of addiction and
instinctively, perhaps, were afraid of it. What did
each of this group of young people do?

Shannon said, "At first, when I was learning the
games, I spent all my money on them. But I really
wanted to save my money and buy other things, so I
had to stop."

100 "How did you stop?"

He shrugged. "I just did. I made up my mind that I wasn't going to spend all my money in there. At first, it was hard. But then I started taking only a dollar or two. When that was gone, I quit. For a while, when I ran out of money I stood around watching the other players. But that made it worse. So now when I run out of money, I leave the arcade right then!"

"How did you learn to control yourself?"

He shrugged again, grinning. "I just did," he said.

Well, let's slap a little adult analysis on his procedure.

First, Shannon realized a problem situation; he saw that the games and arcade were seductive.

Second, he realized that *he* had a problem because he was so powerfully drawn to the game machines.

Third, he analyzed choices. He saw that he had a choice between spending his money on video games or on other, more expensive and lasting toys or things (such as the jam box he bought himself).

Fourth, he made a decision. He set a limit on himself. He decided to limit himself to taking a certain amount of money into the arcade, knowing as many of us do that we'll spend what we have.

Fifth, he stuck with his decision, his self-imposed limitation.

Sixth, he made a mid-course correction by not standing around watching the other players. He recognized a further seductive situation and took action to avoid it.

Seventh, he made his behavior definite, not wishy-washy, "Well, tomorrow I'll change," or, "Yes, but..."

Finally, he made his behavior habitual.

Shannon is an exceptionally bright, logical, fair-

minded child. However, any parent should be able 101 to lead their children through essentially the same steps of analysis that Shannon went through on his own. Parents, however, should allow for "branch programming alternatives" to suit each child's personality.

Children learn by watching our examples—positive and negative. They, like we, change their behavior in response to painful, unpleasant, or unproductive experiences. A child should be helped to understand self-control and encouraged to practice it, but it may not "take" for a long time, especially given the degree of immediate gratification and random reinforcement that video games provide as powerful counteractions against self-discipline.

8

What Else Can Parents Do?

"Have you hugged your kid today?" asks a bumper sticker. In other words, have you *communicated* your love physically and nonverbally to your child(ren)? Most of them require not hours of attention, but minutes. Most of them are too busy to spend more than minutes with you, but when they want you, they *want* you. Is hugging your kid communication? You can bank on it!

So is listening. It may take your son twenty minutes to explain—in perhaps broken and halting fashion—the intricacies of *Defender* or *Vanguard*. But listen to him and try to comprehend (I didn't until I went out and tried to play the games . . . and wound up looking like a scarecrow full of straw). Kids, like grown-ups, talk about themselves and about their successes and about what interests them. What interests a lot of kids these days is video games, and their successes come more often from the games than from school, and their selves are intimately tied up with the games.

- 104 When you show by your words and attentiveness that you consider video games to be good, interesting activities, it is equivalent to having your child or another adult say to you that you, your career and your successes are worthwhile and valuable.

Communicating with children is an old topic, one of the things we parents try to do and may succeed in doing for a while but then eventually forget about as we become caught up in careers and bills or simply our own television shows. *But* socialization begins at home. Asocial behavior begins at home. I have one child and know several others who are loners "by nature," and who require different kinds of attention from the "star performer" children who can be talked with.

The loners need more quiet, personal, private holding or listening from parents. By simply observing their play you can learn a great deal about their interests and needs. Even if you have heard the advice, "Communicate with your children," a hundred times, keep reminding yourself of it, and remind yourself that *all* children—even those of neighbors and friends—need to be communicated with, each in his or her own way.

It is a terrible, very depressing thing to have a parent say to you, "My teenager never talks to me."

"Well," I usually cannot stop myself from asking, "did you talk to your child when she was young?"

"No . . .," slowly comes the answer. "I never had the time."

Friend, that's sad.

Alternative Values. Do you have a child who is hooked on immediate gratification? Who values fun more than learning? Who thinks of violence as a

positive option of behavior? Who believes it is im- 105
portant to do what she/he wants, when she/he wants
to? If you said "yes," and if you don't like what your
child believes is important, then you and your child
are in a "values conflict." Most conflicts are conflicts
of values. Some are inescapable because of differ-
ences in personalities and natures; other conflicts of
values are avoidable simply by either discussing or
ignoring them. But other value conflicts are things
you may want to do something about.

Begin by asking yourself, "What do *I* think is
important?" Make a list. Is success more important
than service? Is immediate gratification more vital
than delayed gratification? Is stimulation and sensory
excitement a big part of your life? Do you value
fun more than learning, entertainment more than
acquisition and use of skills? If you answer these
and other questions affirmatively, then you and your
video game playing child have much in common. In
fact, children learn their values mainly from the
home, mainly in nonverbal ways, mainly by observ-
ing and imitating.

"But," someone might cry, "my child has such
weird ideas! I don't know where she picked them
up!"

Beginning in the first grade or even earlier, *the*
most powerful force shaping behavior in a child's
life shifts from the parent to the peer group. By the
sixth grade or so, perhaps earlier depending on the
school and the child, the peer group's domination of
your child becomes cemented. The effect of the peer
group on your child's values increases, depending on
the unity of the family, throughout junior high and
high school. After high school, the peer groups tend

106 to disintegrate; individuals tend to separate and "individuate," in psychologist C.G. Jung's term.

Between the sixth and twelfth grade, the peer group will teach your child values if *you* have not firmly implanted them in the form of solid habits and attitudes. When a parent comes to me and says, "My tenth grader is becoming so rebellious! He talks back to me, leaves the house without telling us where he's going, and stays out practically the whole night," I ask "Who's he running around with?"

By that point, it does little good to tell a teenager to stop running around with his friends. It would be easier for his friends to tell him to stop going home to his parents. The friends would have a higher degree of success than the parents would.

But alternative values can still be implanted. You can teach your children that the "kill or be killed" mentality is fantasy. You can instill in them the understanding that violence is at the upper end of the escalator of intimidation, and that it is easier to avoid trouble than it is to get out of it once it starts. You can channel your child's values into alternatives to spending his or her money solely on video games.

To be successful in implanting alternative values, you must follow one simple rule: Children, like adults, *must* be allowed to suffer, or enjoy, the consequences of their behavior.

Christopher is nine years old. He lives with his mother in a remarried situation. He went with his two older sisters to visit their father in another city. He, like his sisters, had ten dollars spending money. He knew that he was going to be visiting for two weeks and had to make his money last for that length of time for personal spending. The first day

of the visit, his teenage stepsister took all the kids 107 to a shopping mall. Christopher and his stepbrother, Greg, went into a video game arcade. Within an hour and a half, Christopher had spent his ten dollars. That's *forty* games in an hour and a half! Greg's only comment was, "He's a lousy player."

The next day, the children were to go on a church-sponsored trip to a nearby city. The planned activities included ice skating, bowling, a movie, and two meals. The trip was subsidized by the church, but each child had to pay eight dollars for the trip. Christopher's father collected the money from all the children . . . except Christopher. "Where's your money?" his father asked.

Christopher shrugged, grinning. "I spent it."

"Then you can stay here tomorrow with my parents."

Christopher looked amazed, hurt. "But, you could give me money."

"I could, but I won't," his father said. "You made a decision about how you wanted to spend your money. I'm going to let you stick by your decision. We'll go; you'll stay."

One by one that afternoon, the other children went to see their father. "Is Chris *really* going to stay here by himself?"

"Not by himself."

"But he'll miss all the fun."

"He knew how much money he had, and he knew how long he had to make it last."

The children, one by one, looked perplexed, amazed. "But I'll loan him the money," one suggested.

"How will he pay you back?"

Blank look.

108 Christopher stayed; the other children had fun. Christopher thoughtfully listened to them tell what they'd done on the trip.

Later in the week, Greg began going around the neighborhood mowing yards. Christopher went with him and helped mow. He and Greg split the money, and each made six dollars. On Saturday, they all again went to the shopping mall. Greg and Christopher again went to the arcade. Christopher took all his money; he came out with \$5.50. Smiling, he told his big sisters, "I'm saving my money. I may need it."

A success story.

Are alternative values always so simply taught? No! Christopher is nine and does not have a peer group except his sisters, both of whom value the judicious spending of money. But he is not so thick-headed that he couldn't see options and make a nonforced decision—because he had experienced the consequences of a previous decision. Being left out had hurt, even though he had had fun and attention from his grandparents; he learned a lesson.

Spiritual Training. Notice, please, that the subtitle is *not* "Religious Training." Religious training has to do with doctrine and ritual, for example. Spiritual training has to do with *the* most basic needs and drives of all human beings: their values and beliefs, their attitudes and loves.

Several previously discussed principles apply here. First, if you do not give your child guidelines, she/he will wallow along, directionless. If you do not teach your child values, she/he will learn them somewhere else, probably from a peer group. If your child does not learn that consequences follow behavior, she/he will learn that whatever one does is okay "if you can

get away with it." Likewise, your child *will* receive 109 spiritual training. The training will be from one of two sources: a good one or a bad one.

In spiritual matters, there may appear to be fences on which to sit "comfortably" uninvolved and uncommitted, but in actuality there are no fences. What appears to be a fence is really the bad side of things.

Spiritual training can begin at any age, and it is never too late for a person to learn. But the younger you learn, the better. Basic attitudes—about love, violence, aggression, obedience—are learned quite thoroughly by age three or so. Secondary values—such as cooperation, delayed gratification, spiritual values, respect—are implanted by age seven or so. Thereafter, a person may grow into what seems to be an absolutely horrible teenager (one mother suggested that if they weren't horrible, we'd never get rid of them), but the young person *eventually* will circle back to and embrace the values he began living.

If the early years are a void of spiritual training, then the later years contain no source of stability. Disaffected, alienated, uncommitted, apathetic youths are the rebellious kind who eventually will circle back to their parents' values, or they are the empty kind who for the remainder of their lives will search for their identity and the "meaning of life."

God made no one who does not at one time or another hunger and thirst after Him. Will you be the one who explains to God why your child's hunger and thirst for salvation were not satisfied?

All the foregoing principles and guidelines related to discipline, communication with your children, the

110 teaching of values and love grow out of one unifying principle: the lordship of Jesus Christ in a home. When He is the center of a home—the unifying principle, the example of love and mercy and forgiveness—a clear and well-lighted path exists through all other matters, such as husband-wife relationships, parent-child relationships, sibling relationships, discipline, and so on. Without His lordship in a family, the husband or the wife tries to dominate the family, the children try to dominate one another and/or their parents, and confusion reigns. All matters, whether we're talking about video game addiction or drug abuse or divorce, must go to and begin from one fundamental decision, which is stated so clearly in the Bible: "Choose you this day whom you will serve. As for me and my house, we will serve the Lord."

In connection with video games, the recognition by many players that video games are potentially addictive stems from their spiritual training. Children such as Shannon who saw addiction as a danger and backed away from it are children who have been taught that whatever controls us is our master, and that we are to have no master but God.

Other Solutions

There are a number of other remedies to the problem of video game addiction, compulsive behavior in general, and the various specific dangers presented by video game playing. Most of these other "solutions" are outside the competency of parents and require professional help.

Behavior modification is often viewed by those who dislike the concept as manipulation, degradation of human beings to a mechanical level, or simply something not to be trusted. When Pavlov trained his dogs and Dr. B.F. Skinner trained his child, the idea spread that some horrible form of distortion had been achieved.

However, behavior modification also is called behavioral engineering. It involves these steps: (1) identification of a problem or desired behavior—the "target" behavior; (2) behavior to be instilled or eliminated is clearly defined; behavior to be taught is broken down into steps that can be learned in a sequence; (3) some form of reward is discovered that

112 the learner desires; (4) a schedule of reward is established, usually decreasing in frequency as the behavior is learned; (5) rewards reinforce the behavior to be learned or are withheld from behavior that is to be eliminated; rewards for desired behavior decrease as the behavior is learned; (6) rewards are withdrawn when behavior is habitual, or rewards given when undesired behavior has been eliminated.

There is also "aversive conditioning," or training a subject to avoid certain behaviors because of punishment or other pain.

Training must be done on a one-to-one basis; careful records must be kept of the frequency of the behavior and the frequency of rewards. There is little room left for subjective opinion as to whether a person's behavior is changing.

Behavior modification, despite its cold and inhumane appearance, can be—if used properly—far more effective in producing real behavior change than any other method. Through behavior modification, your child could be trained both to avoid video games and to select more social activities. The process would be long and probably costly, but effective.

Family counseling may or may not be effective in changing video game addiction. Individual counseling of the compulsive youngster is less effective than family counseling, because the motivations and reinforcements that result in an addiction do not develop in isolation—they are part of a matrix of problems that develop over a long period of time within a family.

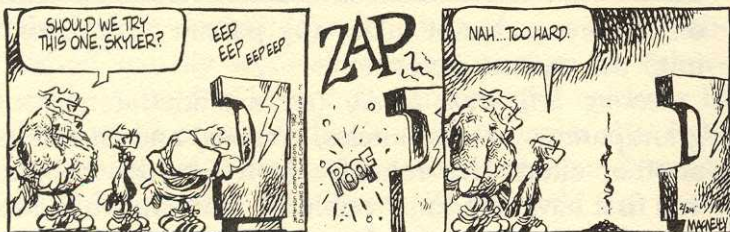
Like it or not, embarrassed or not, afraid of spending upwards of \$40 per hour or not, family counseling often is a solution to video game addiction and the problems within a family in general. A counsel-

or, however, cannot make any patient "get better" 113 until the patient *decides* to.

Seeking help from family (an extended family of grandparents, aunts, uncles, cousins) and friends is another alternative remedy. To follow this course, you first have to admit "publicly" that your child has a problem. Next, you have to take your child to family members or friends to play with other children, to receive more attention and love and support than your career may allow you to give, and simply to be with other people. Many families slide into self-imposed isolation. The adults are either too tired to participate in social activities or lack the desire. Or the family may be new in town or live in a town or neighborhood that has little "interaction."

There are obstacles to obtaining help from friends and family. However, the asocial, fearful, potentially violent, entertainment-oriented, compulsive behavior of many young people fades when they meet new friends, come into contact with loving and accepting families—and adults other than their parents, or change peer groups. If the behavior pattern of an addicted child is not *somehow* broken, the seductive qualities of video games (and other objects of addiction) will inevitably draw the child further into a negative spiral.

Capitalizing on the skills and benefits of playing video games is a final solution and a major task for parents and teachers. This solution may require that parents (with their children, possibly) and teachers go to a "computer camp" (current cost for two weeks: about \$900, for six weeks: about \$1200). Such camps train children, parents, and teachers to operate and program computers. They are conducted by school districts in public school buildings during the summer,



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and by computer and video game companies, such as Atari, much as any other summer camp.

The problem, say camp teachers, is getting the young people away from the computers. They will spend up to twelve hours a day writing their own programs, loading them into the computers, and running them—and must be pried away for athletic or “fun” events. It is estimated that this past summer more than fifty thousand young people in America attended such camps, plus an unknown number of parents and teachers who are trying to become “computer literates.”

Parents and teachers can also learn about such things as logic/pattern recognition skills, eye-hand coordination, memory expansion, and sharpened reflexes, and then use that knowledge to help young people relate their specific, game-oriented skills to (1) areas of their education and (2) possible career opportunities.

Visits to computer companies (or anywhere that computers are being used daily) show children what people are doing on various jobs, and the workers can tell them what knowledge and skills young people need to learn.

Parents also can work with their children’s teacher(s) to attempt connections between the skills learned in playing video games and skills required in school

work. Mathematics is the most obvious area of possible connections, but drafting, geography, typing, and even English are other subjects where direct connections exist. If you have a child who is a devoted player, consider finding a Computer Assisted Instruction program or computer camp for him or her to enter. Seriously consider buying a home computer, possibly with a printer and phone hookup to other computers. Having a child work programs at home might be infinitely better than having him or her feed quarters into machines at an arcade. In other words cooperate with your children in making use of their interests and skills.

Basically then the same situation exists with video games that exists with television: There is potential benefit and potential harm. Dr. Paul Borgman, in *TV Friend or Foe*, states a principle in regard to the use of television that applies directly to the use of video games:

The greatest single barrier to the qualitative use of television in our families is our assumption that nothing good can come from it. Many of us think of TV as "the boob tube." Our children know this. How must that make them feel about themselves, since TV is something they love? We parents need to understand that television is a medium that does make demands on the intellect and the imagination. The brain can be exercised by TV...and in ideal viewing situations the imagination will be activated. Television does not need to be a "boob tube" unless we make it so.

The same statements could be made about video games and their uses.

What else can your family *do*? That's the final chapter.

10

Family Activities: A Fresh Look

In talking about what parents or families can *do* about video game addiction, the emphasis is on the *family*, not upon what professionals or "others" can do. The solutions all require the family members, individually and collectively, to change their behaviors. There is no answer that can make problems disappear, and changing behavior is a long-term process.

The following activities are suggested, therefore, not as one-time events but as ongoing ways of involving each member of a family in interaction with one another. As you read the following material, make a list of what specific behaviors you will have to change in order to use the suggestions:

Play Video Games. "What? If you can't lick 'em, join 'em?" Well, yes and no. If you have a child who is addicted to video games, it helps to understand what he or she is addicted to. How can you understand a problem without first-hand knowledge of it? (That statement does *not* mean that before you can

118 understand heroin addiction you have to try it.) Firsthand knowledge of video games does much to dispel the problem of computer illiteracy and the fear many adults have of strange machines and "video invaders" in general.

Furthermore, if your child(ren) truly have a love for something, why shouldn't you participate in that love, if it is fun and entertaining and not intrinsically harmful? You want them to enjoy doing what you enjoy doing—bowling, fishing, sewing, reading. Turn-about is fair play. Many children feel their parents disapprove of them because they, as strange as this may sound, are not their parents. Many parents look at teenagers as though the teens were mutants carrying a dread disease called experimentation or difference.

Playing video games—at home or in an arcade—does much to *show* your children that you approve of them as individuals who have interests and skills different from yours. Show them at least that their video game playing does not bother you. You may even find that you enjoy the games and will want to develop your own playing skills.

Take your kids out for a pizza and an evening playing video games. I absolutely guarantee that once you join your children in playing, you will (1) see your children in ways you never before have seen them, and (2) see the video games themselves in ways that may astound you.

You probably will see your children performing skills with ease and enjoyment that leave you fumble-fingered and bleary-eyed. *It is not easy* to try to focus on an entire video screen at one time, trying to keep track of your ship, obstacles, attackers, and changing terrain. Pretty soon you may turn to your ten-

year-old and ask, "How d'you do this?" In all likelihood, she or he will casually step up and say, "Let a pro show you how, Mom." 119

Participate in Other Children's Activities. How long has it been since you made mud pies, played dress-up, went bicycle riding, built a treehouse, flew a kite, got muddy in a creek, explored an alley, or even simply "wasted" time "fooling around" with something like junk, an old radio, a broken bicycle?

Children live in an entirely different world from us adults. It's a world run by pretty much the same rules—competition, status, intimidation, skill. It is a world influenced and controlled to a large extent by adults.

But it is still a very different, very separate world.

Participating in your children's activities is almost certain to make them suspicious. They may not even *want* you "messing around" in what they're doing. They may suspect that you're secretly trying to get them to do something "better," more "adult," or simply something *you* like to do rather than what *they* like to do. You can begin by observing—not snooping or spying!

Observing children doesn't take long... and can't take long since they're seldom still for long. Notice that there is no recommendation that you participate in your teenagers' activities. You, Mom or Dad, are an embarrassment when you are seen in the company of your teenager, especially if your family drives a station wagon. If a teenager shows up practically anywhere—even at church or a school football game—with his or her parents, it means that teenager could not get a date or doesn't have a group of friends to run around with.

Younger children aren't like that, fortunately. If

120 they settle down and figure out that you are not trying to change or manipulate them, then they willingly and enthusiastically include you in their activities. Then the learning begins—for you.

Edging your way into your children's activities does *not* mean becoming "buddy-buddy" with them or lowering yourself or reverting to your childhood. You're still the adult, and your children are still your children. However, they will respect you more when they *see* you interested in what they're doing, because only a mature, unselfish, unneurotic adult can be so "other-aware" as to participate in children's activities.

Moreover, their love and affection for you will increase simply because you are demonstrating an interest in them, in what they are good at doing and like to do. Remember, though, children may initially be suspicious of your motives and your presence in "their" world. They guard it jealousy, for it is a precious, private world of simple enjoyments and uncomplicated pleasures—enjoyments and pleasures that most adults tend to ridicule in one way or another in their drive to get children to "grow up."

The relationship between participating in children's activities and weaning a child away from addiction to video games (or anything else addictive) is far more complex than it might appear. In the first place, you become "there." If you are "there" for a child, she/he is less likely to be found in a video game center, solitarily involved with a machine. In the second place, by participating with your children in their activities, you are showing *approval* of them as human beings.

Approval builds self-concept. Disapproval is more likely to produce divergence and rebellion than it is

to produce what the adult claims to be seeking by 121 disapproving—conformity to the adult's behavior and values. Disapproval usually backfires, and approval draws people together. (There is one kind of exception: I cannot and will not approve of my son when he allows blue mold, or whatever that stuff is, to grow between his toes because he hasn't been taking baths!)

In the third place, participation in your children's world means that they are less likely to carry the private world of childhood into the semiprivate, potentially asocial world of video invaders. Finally, assuming that you yourself are not hooked on immediate gratification and the other seductive motivations built into video games, your presence and participation can transfer values and examples of behavior to your children. Those values and examples provide the fuel for fighting any addiction.

Share-Times. One of the above-mentioned remedies to video game addiction was communication with your children. But parents do not suddenly start communicating with their children—especially teenagers. There must be some structure to communication, or both parties become uncomfortable and conscious of an effort being made that will probably soon disappear.

Structure for communication can most easily be had from regular share-times. You know when your children come home, I hope. You know when your teenager gets off work, and when you are relieved of the duties and tensions of the daily schedule. Often, in unhappy families, the meetings of children and parents tend to be collisions. The most frequently experienced collision is at the evening meal.

A study of supper table activity produced some

122 interesting results. Most of the time was spent in silence. Of course the people were eating, but people can talk and eat at the same time—provided Mama doesn't catch you talking with your mouth full of food. Of the limited amount of time spent in conversation, most was spend in criticisms. Family members brought up accusations against one another; parents used the time to "get" their children for misdeeds done during the day or even long in the past. The third most uttered kind of conversation was put-downs or come-backs.

Only a bare fraction of supper table time was spent saying anything constructive, supportive, or simply nice. "I have met the enemy, and he is my family!"

Share-times are unfamiliar territory. They must first be established. If you have stated or unspoken rules in your home about "Don't talk to me when I'm tired," or "Don't say a word during my television program," then share-times become shunted off into odd moments. But they can still be had. They must be established somewhere—if not at the supper table, then at bedtime; if not at bedtime, then at breakfast; if not then, then whenever two or more members of the family happen to be in the same room.

How do you begin? Try asking your teenager, "How did school go today?" Teenagers, suspicious creatures that they are, are likely to respond, "Fine." You may stare at them, awaiting more information. But teenagers are trained soldiers in family warfare; they will volunteer nothing lest it be used against them at some future date.

The adult's impulse is to feel rejected, to give up,

and to let the teenager go to his or her room and 123 turn on the stereo or radio. If you don't want to give up, and if your skin is thick enough to resist rejection, then you might try learning some of your children's activities (remember that one?), the names of their friends, and the subjects they are taking in school. "No, I don't want to know what grades you're making, and your teacher did not call. I'm just interested."

"Oh yeah?" asks your child, head tilted. "Why?"

"Just because I'm interested. How's Sammy?"

"Fine."

"Is his brother still sick?"

"No. Can I go now, Mom?"

You see, it doesn't do much good (1) to ask questions that can be answered yes/no, or (2) to allow your family to get into the habit of noncommunication.

Persist. "How'd things go today?"

"Fine."

"What, exactly, did you do?"

Shrug. "Studied."

"What did you study?"

"Stuff."

"What stuff?"

"Just stuff. Oh yeah, we did see a neat film."

Okay, you now face distinct forks in the path of this conversation: Do you say: (a) "That's nice"; (b) "What was the film about?"; or (c) nod, smile, and go back to what you were doing?

"What was the film about?"

Sometimes talking to kids is like pulling teeth. But let me tell you another success story.

Teenagers are perhaps more selfish, self-centered, *self-obsessed* than the rest of us "normal" people.

124 They worry about pimples . . . "zits," about who said what to whom, about whether some boy or girl likes them, about their clothes, their hair, their . . . You name it, and they worry endlessly about it. And they discuss these matters endlessly over the phone.

Jodi is no different from any other teenager, except that (1) she really is a good person; (2) she has no unusual problems; and (3) she works in a Christian bookstore. Her stepfather, however, spent two full years trying to get her to communicate with him—after spending five years trying to get her to accept him as the father in the post-divorce situation. The two years spent in trying to establish communication were filled with conversations like the rapid-fire yes/no/fine one described earlier, and during those two years there were several outright angry, loud confrontations—mainly dealing with selfishness, self-centeredness, and a lack of concern for other people.

The confrontations, however, did not leave behind bitterness or resentment on either person's part; they were honest confrontations: "This is how I feel; this is how I see you. Talk to me about it."

After the two years of abrasiveness—which caused the mother-wife no end of turmoil and worry—the stepfather and Jodi *talk*. She asks him how his work went that day, how it is going in general, and specifically what he is doing. He asks her the same questions, plus questions about her friends—whom he has learned to know—and about various problems that have been bubbling along. The questions are not interrogations; he is not "checking up on her" because he trusts her, and her honesty and integrity.

But he does not hesitate to discipline her when

she breaks a rule, such as staying out too late or not 125 letting the family know where she is, or sluffing off her household duties. Jodi, for her part, can say to her stepfather, "I really wish you wouldn't do..." whatever is bothering her about him. She also can explain and argue, because personalities clash and do not understand each other. At this point, subject to change, the relationship is healthy. But a lot of patient, hard work went into making it. Incidentally, is there any chance Jodi could become a video game addict? No way.

Other Activities. There are any number of other activities a family can do together: enjoying special occasions, building family traditions, praying together, going on vacations together, and so on. But there also are some specific things the parents of a video game-addicted young person can do.

Talk about or simply observe what the young person believes is important. Get the child to verbalize what she/he believes in, holds to be important, or would fight or die for. Expressing beliefs and values does much to clear them up, to bring into the "light" feelings about what is important. If left alone such feelings might ferment into unpleasantness.

Persuade your child to consciously, verbally work through a problem with you. Get him or her to (1) identify and define the problem itself, (2) spell out the symptoms of the problem, then (3) outline possible solutions. When all the possible solutions have been written down, (4) get the child to make a choice—a decision based on what he knows you want him to do as well as his expressed values.

- 126 Then (5) discuss the possible consequences of that decision. At this point (6) your courage will be tested: Do you have the strength to allow your child to carry out his decision and to suffer or enjoy the consequences? At later times (7) check up on your child's decision; get the young person to verbalize and reflect on the effects of the decision. Was it a good choice? Why or why not? What other option(s) (8) might have worked out better?

Play "If-Then" games with your children. Lean back some evening when reruns clutter the networks and say, "Suppose you had a million dollars. How would you spend it?" Then *listen*. Don't make comments, frown, or criticize, or say what you would do (unless the child asks). Just listen.

"Suppose you were the captain of a ship that sank way out in the ocean. You swam to a lifeboat. In the lifeboat were ten more people than it could safely hold afloat. As captain, what would you do?" Then begin listening again, asking only questions to clear up things you don't understand about the child's answer.

"Suppose your friends and you build a spaceship that could fly to the moon. What would you need to take with you?"

"What if you had to go to a city near here by yourself. How would you get there?"

You can present problem situations, even ones dealing with basic fears such as death, separation from parents, or failure. The important things are that you listen, that you not judge or criticize (which would mean that you had "set up" the child for failure), and that you and the child interact.

Just remember: There are no quick and easy answers ¹²⁷ to any problem. If you have a child who is addicted to video games or anything else, the compulsiveness of the behavior will not suddenly vanish simply because you do some activity once or twice.

Final solutions are built around one consolidating, pervasive act: Love...love that is persistent, unconditional, unselfish, and willed even when it is not felt.

GAME OVER
(Quarter detected in pocket)

Appendix A:

A Brief History of Video Games

The history of mechanical toys is long, with roots in the marvelous German and Austrian clocks and various "automata" built in the fourteenth and fifteenth centuries.

Typical mechanical marvels of this sort were figures that moved to a bell and alternately swung hammers to sound the hour. The roots of such intricate machines go back the fourth century B.C. Greek automata, such as a wooden pigeon suspended from a pivoted bar that spouted water and revolved by means of compressed air. Elaborate clocks telling the solar and lunar year and the positions of certain constellations were built in the third century in China and later in Europe, where "androids" became popular during the Renaissance. One such android was a mandolin-playing lady with intricate, clock-work internals. The most intricate automata and androids appeared in the eighteenth and nineteenth centuries. Such fascinating objects were made as mechanical songbirds that appeared suddenly from under hinged panels in snuffbox tops.

130 "Mechanical tableaux" were also fashioned. These involved painted landscapes in which moving figures, windmills, carriages, and so forth sprang to life by means of hidden clock-works or hydraulic systems. Mechanical animals, birds, saints, and other figures moved with the hours or as parts of gardens, and fascinated wealthy (and perhaps bored) minds.

In America in the nineteenth and twentieth centuries, "Yankee ingenuity" produced many mechanical inventions. Huge mechanical bands labored and wheezed in glass cases, activated by the simple dropping of a nickel into a slot. Often these marvels were built above player pianos, with violins, horns, and drums enclosed and playing with the piano. The mechanisms were levers and cams, springs and screws, bellows and rods and arms. The development of such mechanical ingenuity led to the development of the machine-game that first appeared in the late 1920's and surged to popularity during World War II: the pinball machine.

Pinball machines were actually the mechanized descendants of an old English game called bagatelle, in which balls were rolled up a board toward nine cups. Popularized during World War II and spread widely during the 1950s, pinball machines were the first denizens of arcades and hang-outs for young people, rivaling pool halls both as gathering places and as sources of concern for communities.

The transition from the mechanical means of action in widely popular games to electrical means of action began after World War II with the development of the computer. The transition was more difficult and expensive for the industries involved than it was for the players, for the video games retain most of the challenges and seductions of pin-

ball machines, though the internal parts of the machines are totally changed. 131

At first the computer—such as the contraptions were at the time—depended on vacuum tubes, solenoids, and other large and clumsy devices. The invention of the transistor revolutionized the electronics industry, as did the later invention of the circuit board. Research during World War II produced arrays of resistors and interconnections that were fabricated by screen printing patterns on ceramic bases or substrates.

The idea of printing or etching patterns of circuitry on semiconductor substrates boomed with the invention of the transistor in 1947 and the first demonstration of the “monolithic integrated circuit” in 1958. The world of microscopic electronics was born, and its components have shrunk in size and price ever since.

By the time Nolan Bushnell, in the early 1970s, was working on a computer at the University of Utah, the size of computers and their price had decreased significantly, while the proportional size of their memory units had soared in capacity. Bushnell invented what soon was to replace the pinball machines in the hearts of arcade goers. His game was called *Pong*, a simple game with a white blip on a black and white television screen.

In *Pong*, you could “slap” the “ball” back and forth with an invisible opponent. In later versions, it became possible for two players to try to outmaneuver each other, making real competition possible, sort of a video counterpart to tennis. But the game remained slow, and players soon became bored with the program’s limitations.

In the mid- and late-70s, programmed consoles

132 and hand-held games were developed by such companies as Magnavox and Mattel. Milton Bradley entered the field, as did the father of the transistor world, Texas Instruments. The Japanese seized upon the electronic revolution with relish, and the video game boom was on. Bushnell incorporated under the name of Atari in 1971. Atari today is the industry leader, with two-thirds of the estimated \$2 billion in video game factory sales.

Atari is so dominant that other manufacturers must face a basic decision during new product development: to make their cassettes compatible with Atari consoles or to try to cut into the increasingly competitive market by selling consoles of their own.

Japanese companies work mainly by licensing American outlets to distribute such games as *Pac-Man*. Other entrants into the field compete either for Japanese innovations or against Atari. Bally Manufacturing Corporation, which has licensing agreements with CBS Inc. (which owns Ideal Toy Corp.), is one of the leading competitors.

What directions are these mammoth corporations taking? Toward Europe, Australia, Scandinavia, and Mexico. They are looking forward to a fusion of video games and home computers, to decreasing size and increasing complexity and utility. They are placing machines through distributors in pizza parlors, YMCA buildings, college dorms, and church "activity centers," as well as in the more traditional settings such as restaurants and bars, arcades and video game centers, shopping malls and stores.

Appendix B:

How the Games Work

Video games are machines. That may seem an obvious statement, but it expresses an idea that is important to understand. Video game players may think and even speak of the video games as "friends" or "foes." But the games are not.

Viewed from the outside, video machines are descendants of pinball machines: upright, standing on legs, controls in front, and a screen facing the player. Controls range from joysticks to balls to buttons and levers and are placed near the areas at the front of the machine where a player most naturally rests his or her hands. There are buttons to start the game, to tell the machine that two or more players are involved, and to begin different phases of a game—for example, after your spacecraft has been blown to bits and you want another one. Down on the front of the machine is a slot for quarters or fifty-cent pieces.

Because they *are* machines, video games are in one sense controlled by the players. But the second im-

134 portant assumption to understand about video games is that while the player is playing the machine, the machine is "playing" the player. This "interaction" is what gives many players the idea that they are with a "friend" or a "foe." A good player learns each machine. She or he learns its rules, what it can do and what it is likely to do if the player does this or that.

A pattern emerges, a logical pattern that may constitute one of the benefits of video game playing. But while the player is learning the machine's rules, the machine is "learning" (adjusting to) the player. This "learning" or adjustment is based on the complexity of the *program* that operates the machine.

The program is the "mind" of the video game, and its heart and organs are electronic components that have been invented and/or made economically feasible only within the past ten years.

Video game machines fall into three categories. First, there are *home consoles*. As advertised on television in a virtual war among Atari, Intellivision, and ActiVision, these units consist of four elements: (1) your television, be it ever-so-humble or as huge as a wall; (2) a console—with integrated circuitry inside and controls outside—which hooks up to your television; (3) hand-held controls, frequently joysticks for movement of ships or players on the screen; and (4) cassettes that pop into the mouth of the console and contain the software, or program, that tells the microprocessor and microchips in the console what to do.

Second, there are *home computers*. Not all of these computers have game capability; Apple, for example, maintains that game capability would lower the

image of its product. Of the computers that do have 135 game capability, some use cassettes and some can be programmed by the user. These computers have a keyboard, much like that of a typewriter but having separate keys—for example, separate keys for the colon and semi-colon, since those are frequently used in programming.

Home computers have memory units (either internal or separate), and the memory units have various capacities, using either “floppy discs” or tape cassettes for information storage.

Home computers may be hooked to printers—either high-speed or not—and video display units or CRT (cathode ray tube) units or televisions. They may also have telephone hookups for “talking” with other computers or computer systems that deliver information and programs directly into your home.

Home-delivery systems have been heralded as the “coming thing.” Promoters say that soon (even now in some areas) it will be possible for you to shop for groceries or any other product from your home. Banking and other money transactions likewise can be handled through your home computer, with electronic impulses taking the place of money and checks, charge accounts and bills. Stock market reports, newspapers, and even books can come directly into your home and appear on your television simply by having the compatible equipment and paying a user’s fee.

In addition, home computer salespeople proclaim that their products can be used by any average person to figure a budget, plan menus for a month, design anything from clothes to buildings, keep tax records and figure income tax, and so on. The hus-

136 band of one high school business teacher has set up for her, on their Commodore home computer, a program that will keep her attendance records and average her grades with approximately a quarter of the effort and time required by the manual methods she had been using.

The third category of machine is the *video game* found in arcades—and soon, perhaps, in your living room if the price is right. They are larger and more complex than the machines in the previous categories, and their programming and circuitry are correspondingly more complex. Hence, they are far more popular than the less subtle and more easily mastered home video game consoles and their software.

Basically, all video games and computers work on a "Yes-No," "If-Then" logic. The programs that operate them (an example of a part of a program is included at the end of this appendix) are fed into the memory unit by a keyboard.

The programmer "talks" to the machine in one of the computer languages, such as Basic. The machine, however, "talks" to itself and stores its commands only in two ways: 1's and 0's. Combinations of 1's and 0's make up "words," though the computer does not recognize them as words. The computer recognizes only impulses of electrical energy stored magnetically.

One "bit" is one "Yes-No," "If-then," or "On-Off" command.

One "byte" is eight bits.

One byte forms one character, a letter on the screen, for example.

A "pyxel," or picture element, is one of the little

bitty dots you can see on your television screen if 137
you look at it very closely. Pyxels make up the lines
of most screens, and if your television is a nineteen-
inch model, it has sixty lines.

"Raster" televisions or display screens are made
up of pyxel dots, but "x-y" monitors or screens have
unbroken lines.

Pyxels are friendly little critters and do not func-
tion alone. They are found in blocks—nine by twelve,
for example, or eight by eight—with 108 or 64 pyxels
in each matrix, in these cases.

One byte of memory is capable of controlling one
matrix.

One "K" of a memory chip, or integrated circuit,
can "remember" 1,000 bits—1,000 "Yes-No" com-
mands.

Memory units may be either ROM—Read Only
Memory—or RAM, Random Access Memory.

The storage capacity of a memory component at-
tached to a computer is measured in "K's." The IBM
word processor with a memory to check your spell-
ing has a 60-K memory. A contemporary video game
may have six ROM 32-K memory chips, each costing
only about \$20. Each represents a revolution in size
and cost reduction that makes older computer pro-
grammers mutter in astonishment.

A "microprocessor" is the central processing unit
(CPU in larger computers) of video games. It is
connected by "IO" lines (input/output wires) to
"microchips"—each consisting of layers of either ma-
terial that will send electrical impulses, stop them,
store them, or "sort of" send them along.

IO lines also connect the microprocessor to the
ROM or RAM memory units where the actual pro-

138 gram is stored. A *program* is a long list of very specific "If-Then" instructions and lines of data to tell the microchips what to do for each "If" or "Then" command. A program is made up of subprograms for different functions of a game, such as video display or sound generation.

The logic of any program is simple: If...then. Programming is therefore "branching." Depending on what a player does, the microprocessor "searches" its memory for the subprogram(s) responding to that action.

When the microprocessor has "found" the appropriate subprogram, commands—in the form of electrical "Yes-No" impulses—go to microchips for different functions of the video game. One microchip, for example, governs the video display that the player actually is seeing.

The video display basically is a huge graph—vertical lines intersecting with horizontal lines. The places where the lines cross are pyxels. Remember, the pyxels form matrixes; one matrix makes one character, and one byte—or eight bits of information—controls each matrix. Confused? Hang in there; it gets better.

Two other terms now come into play, and both refer to program commands in response to a player's action. The first term is "poke." Poke is a command meaning "go to" some pyxel or matrix on the screen. When a player fires the cannons or lasers of his spaceship to destroy an asteroid or a space invader, the microprocessor understands only "Poke." On a microchip, an impulse flashes toward a number of pyxels in a direct line (a line that appears direct on the screen but actually is moving diagonally or slantwise across tiny dots) toward the edge of the screen.

The second term is "peek." It is a command meaning "look ahead." The microprocessor is asking a microchip to look ahead of the "poke" command to see if there is anything along the line of "poke." If there is, then another subprogram goes into operation: a collision occurs, an invader is blown up, lights flash, sound blares.

How? If you're not exhausted, follow the next line of *this* branching program.

When a player presses the "Fire!" button, the microprocessor begins searching the memory unit. It finds a command that says "If 'Fire!', then go to data line 4210." It scans the memory unit for that data line, then feeds the commands found there to the appropriate microchips for responses. The first command the microprocessor sends out might be "Give sound." The appropriate microchip activates the sound generation unit, and a blasting sound erupts from the speakers.

The program data line's next command is a "poke" order. The appropriate microchip responds by making what the player would see on the screen as a line of light going toward an invader. Simultaneously, a "peek" command goes out. If the "peek" command encounters nothing, the microprocessor searches for another "If-Then" command and goes to another data line of commands; the result appears on the screen as a "miss." The player hears a groaning noise or some other sound signifying a miss, and his "shot" fizzles out.

But if the "peek" command met something along the "poke" line of travel, another subprogram goes into action. Lights flash—each pattern composed of a very specific set of impulses. Each impulse is sent

140 from the video display microchip. Each impulse tells a pyxel on the screen to light up with a color. (A pyxel is made of three color elements: a blue, a green, a red; the color elements can be excited in different strengths/combinations to produce different colors on the screen.) The pyxels flash in a pattern of impulses—the exploding asteroid or invader. Movement on the screen is the turning on or off of colors in pyxels in matrixes.

Meanwhile, other parts of the program are feeding information into the microprocessor. These bits of information do not enter the microprocessor at the same time, however; they come singly and go out singly. Strangely, a computer can do only one thing at a time. The flow of impulses is in a line. That brings up the most fascinating fact underlying the electronic hardware: Microseconds and milliseconds are a whole lot faster than anything we can imagine.

The operation of computers and video games is possible *only* because we have learned how to send information impulses at the speed of light: about 186,281 *miles per second*.

The speed with which a microprocessor handles information is the key to making action possible on the screen. The computer part can “think ahead” of the player only because of the incredible speed at which other parts of the program are fed through the microchips. The speed and microscopic size of current electronics have made the world of the video invaders possible.

Still confused? Reread the foregoing explanation, then speed up the process described by perhaps a billion times. Multiply the facts of the process by perhaps a thousand, and you will have a minimal

understanding of the complexity involved in that 141 quarter-eating machine.

You probably now know many times more about the guts of a video game machine than the average game player, who couldn't tell you the difference between a raster line and a pyxel.

Sample portion of a video game computer program.

```
1321 IF C$="WES" THEN 1523
1322 IF C$="DOW" THEN 1520
1323 IF C$="UP" THEN 1520
1324 PRINT "INVALID COMMAND"
1325 GOTO 1473
1326 REM INPUT P
1327 REM IF P>0 & P<43 THEN 1375
1328 REM GOTO 1378
1329 IF R <> 39 THEN 4900
1330 IF P(8)=99 THEN 2300
1331 P=0(8)
1332 PRINT "SCANNERS FUNCTIONAL"
1333 GOTO 1450
1334 IF P<>10 THEN 1590
1335 O(9)=10
1336 PRINT "ACTIVATE SHIELDS "
1337 GOTO 950
1338 IF O(5)=28 THEN O(5)=35
1339 IF O(5)=42 THEN O(5)=28
1340 IF O(5)=41 THEN O(5)=42
1350 PRINT "THERE IS NO"; STR(B$,J+1); "HERE."
1351 C=C-1
1352 O(1)=P
1353 IF I=3 THEN FO=0
1354 DATA "LARGE CRUISER APPROACHING."
1355 DATA "COMMAND MODULE TO RIGHT."
1356 DATA "RESCUE SHIP 5 SECTARS DISTANT."
1357 DATA 7,4,2,15,44,2,21,3,6,58,9,53,0,0,0,4,4,55,1
1358 DATA 5,5,3,3,0,0,55,11,1,22,1,7,8,8,66,2,2,3
1359 DATA 18,0,20,0,0,0,25,25,0,0,0,19,21,0,26,0,0,0,0
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About the Author

Charles Beamer is the concerned parent of three video game playing teenagers, as well as an educational consultant, high school English teacher, and free-lance writer.

As a writer and photographer, Beamer has written numerous articles, books, and poems, including two fiction fantasies, *Magician's Bane* and *Lightning in the Bottle*. His most recently published book is a family devotional *Joshua Wiggins and the King's Kids*.

Beamer's free-lance work for educational organizations serves a wide range of needs, including a public relations campaign to locate rural children eligible for special educational services. He is the owner of Austin Writers Group, a business which produces educational and developmental materials for educators, and has conducted workshops and other training experiences.

Beamer lives with his wife and family in Denton, Texas.

How do video games affect your child?

Jimmy: Jimmy's face shows almost no emotion as he manipulates the controls. Kill or be killed is his stimulus, and his reward is random reinforcement and frustration just strong enough to produce Jimmy's problem: he is addicted.

Emilie: "Look, Mom's got her soap operas. What's so different between them and *Donkey Kong*? I only spend ten or so dollars a week on [games]. And so what? I work for my own money."

Video games gross between \$2 and \$5 billion annually—three times more than pro football, basketball, and baseball combined. Video games can be tremendously entertaining, constructively educational, or actually addictive—depending on the player's reaction to them. Charles Beamer explains how the games work and helps parents analyze the benefits and hazards of the technological wizardry of the newest national pastime.

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